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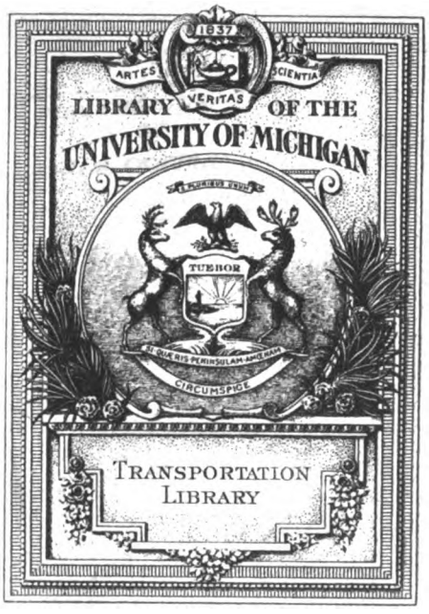
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THE GIFT OF
Howard Coffin

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Volume XVIII New York, N. Y., U. S. A., July 2, 1908 Number 14

THE MOTOR WORLD

A trade paper giving the World's Motor News

Ten cents a copy—
Two dollars a year



PALMER-SINGER

Palmer-Singer
Six-Sixty
Runabout
6 Cylinder
60 H. P.
$2850

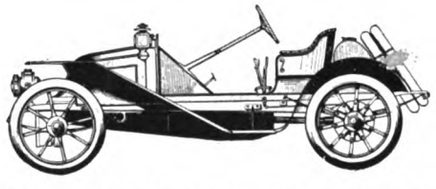
All Cars
Are Licensed
and Guaranteed

Sold by us
Under Selden Patent
for One Year.

Palmer-Singer
Six-Fifty
Racing Car
6 Cylinder
50 H. P.
$2450

The "Skimabout" is the sensation of the year among motor cars. There is nothing quite like it. It is the handsomest, most stylish, medium-powered runabout on the market, and no runabout—at any price—can surpass it for town, park and boulevard use.

Palmer-Singer
Town
and
Country Car
28-30 H. P.
$3000



Palmer-Singer
Four-Fourty
Seven Passenger
Touring Car
40 H. P,
$4000

Palmer-Singer Four-Thirty Skimabout
$1950

PALMER & SINGER MFG. CO.

1620-22-24 Broadway, N. Y. 1321 Michigan Ave., Chicago

Metropolitan Distributers of The Selden.

Sole Distributers of The Simplex.

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THE WINNING CAR

in most really notable automobile events, is equipped with Hartford Tires.

¶ This is a fact that should be most significant to the man who buys tires.

¶ It proves that the men who really know, and who have learned, perhaps by bitter defeat and disappointment, that the best, and the best only, is real economy, recognize in Hartford Tires the highest standard of quality.

¶ The Philadelphia North American, of June 14, speaking editorially of the winning car at Point Breeze track, June 13th, says: "Tire trouble of the slightest kind would have meant defeat, but the Hartford Tires on the machine did their work nobly."

¶ And so the story goes—ever and always success on Hartford Tires. Get them on YOUR car.

Hartford Tires



"The tire with the doubt and the risk left out"



are always the same in quality. All one grade—the best, and the trade marks here reproduced are your guarantee and protection.

Hartford Tires and Hartford Tubes

the world's best for quality, resiliency, durability and satisfaction.

THE HARTFORD RUBBER WORKS COMPANY

HARTFORD, CONNECTICUT

BRANCHES—NEW YORK, 57th St. and Broadway; CHICAGO, 83 Michigan Ave.; BOSTON, 817 Boylston St.; DETROIT, 256 Jefferson Ave.; DENVER, 1564 Broadway; PHILADELPHIA, 1425 Vine St.; ATLANTA, GA., 94 North Pryor St.; BUFFALO, 725 Main St.; CLEVELAND, 1831 Euclid Ave.

AGENCIES—Pierson-Wilcox Elec. Co., Minneapolis; Mercantile Lumber and Supply Co., Kansas City; St. Louis Tire Agency, St. Louis, Mo.; Chanslor & Lyon Motor Supply Co., 930 S. Main St., Los Angeles, Cal.; 542 Golden Gate Ave., San Francisco, Cal.; F. P. Keenan Co., Portland, Ore.; Compania Mexicana de Vehiculos Electricos, City of Mexico.

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2

FRANKLIN Automobiles

Excessive weight cannot make an automobile strong nor safe. But it makes big bills.

The Franklin Model "H" touring-car is unique among automobiles. It weighs less than 2,600 pounds. It has 42 horse-power. Its engine is a six-cylinder. It carries seven passengers comfortably. Yet it is lighter than any standard five-passenger, water-cooled automobile.

Consider what that means in net power, and ability on American roads. Consider the economy.

Type "H" is faster than any touring-car of anywhere near its power. It has large wheels and tires; and like all Franklins, it has full elliptic spring suspension and laminated wood frame—making its riding qualities comfortable and easeful beyond comparison. No shock to the passengers; no racking of the machine. And you can steer it with one hand.

A heavy automobile pounds heavily on the road—that means rapid wear-and-tear and discomfort. It is harder to control—that means danger. And the running-cost and depreciation-cost are unreasonable.

The Franklin air-cooled engine not only gets rid of weight, but of trouble and complication. It economizes fuel wonderfully; and it cools perfectly, even running idle—a thing no water-cooled motor will do.

Type "H" is the handsomest touring-car on the market. Its body of sheet metal is a work of art. No Franklin has the cheap wood body nor the heavy cast body. And you never knew a Franklin to wear out.

Before you buy any automobile see it weighed and test its strength.

16 h. p. 4-cylinder Runabout $1,750	28 h. p. 4-cylinder Touring-car or Runabout... $2,850
16 h. p. 4-cylinder Touring-car.. 1,850	42 h. p. 6-cylinder Touring-car or Runabout... 4,000

Prices f. o. b. Syracuse

Write for catalogue describing the Franklin.

H. H. FRANKLIN MFG. CO., Syracuse, N. Y.

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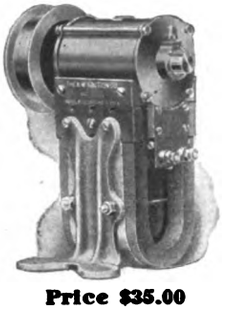
THE K-W MAGNETO

Model F

Has bracket as shown for attaching to frame of car. Made especially

For Ford Ruuabouts

Good on any car.



High in Quality—Low in Cost
Perfectly Reliable—Easy to Apply
More Power—Less Fuel

Price $35.00

It starts the engine easily without batteries and runs it faster and better than any battery because it gives a hotter spark. They run in ball bearings and have no moving wires or brushes to give trouble and wear out. They are made to **last** and **they do last.** They are the **cheapest** that is **good** and there is **nothing better** at any price.

We also make high grade Coils and Plugs and the K-W Master Vibrator. Get our catalogue.

THE K-W IGNITION COMPANY

38 Power Avenue, CLEVELAND, OHIO

REPRESENTATIVES:

A. H. GREEN & CO., 1686 Broadway, New York.
W. J. FORBES, 220 Congress St., Boston, Mass.

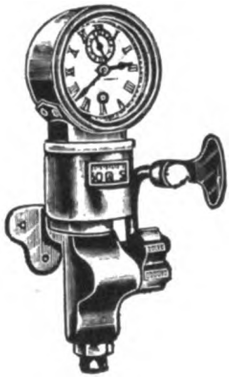
The Auto-Meter—Is Believed

Every big motor event that has taken place in the past three or four years has seen more Auto-Meters in evidence than all other makes of speed indicators combined.

In the Glidden Tours the number of Auto-Meters used by contestants doubled and tripled all other makes put together.

In the New York-Paris Race the only speed indicator is a Warner on the Thomas car.

Nearly all the automobile manufacturers of the country use the Warner to test out their cars before they leave the factory.



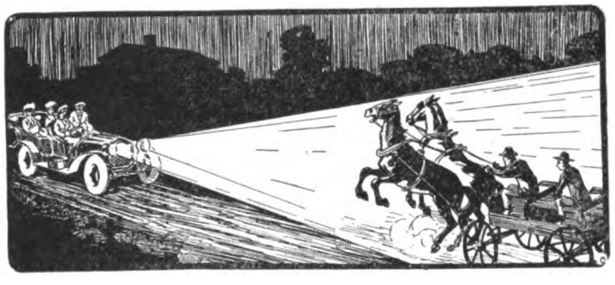
Two of the most successful makers are including the Warner as part of their regular equipment.

Aren't these facts rather significant—don't they mean anything to you?

Send for our new book, "The Final Truth About Speed Indicators."

Warner Instrument Co.

210 Wheeler Ave., Beloit, Wis.



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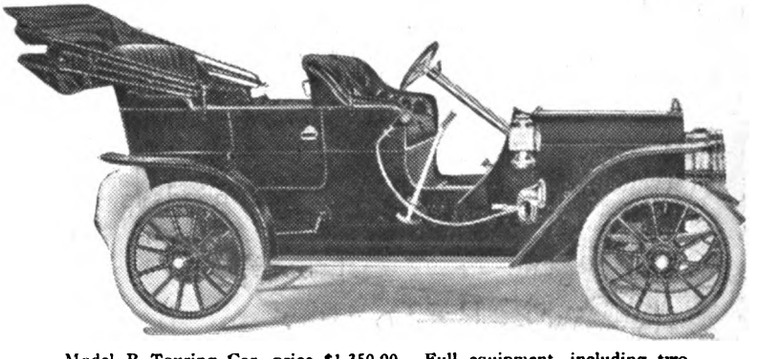
Wridgway No Glare Shade

which adds to the efficiency of the lamps, and keeps glare from blinding other users of the highways. Can be fitted to any existing lamp.

Peerless Motor Car Co., 220 to 224 W. 41st Street, New York



OAKLAND



Model B Touring Car, price $1,350.00. Full equipment, including two gas lamps, two side oil lamps, one tail lamp, generators, horn, tools, jack, pump and batteries. Top, $75.00 extra. Runabout, $1,300.

¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

¶ The live agent will find in the Oakland a car that appeals to a large and intelligent class of purchasers and that will justify the fullest confidence.

¶ Correspondence invited.

OAKLAND MOTOR CAR CO., Pontiac, Mich.

J. B. ECCLESTON, Sales Manager, 53 Franklin St., Buffalo, N. Y.

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Large Sales

make it possible for us to import **THE CELEBRATED BRAMPTON CHAINS** from **ENGLAND** (paying freight and duty), and sell them at the same price at which the several other automobile chains are sold to manufacturers, jobbers, dealers and users.

THE BRAMPTON MOTOR CHAIN



All side plates on both sides on the Brampton Chain are stamped **"BRAMPTON."**

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement.

THE BRAMPTON CHAIN is made of helf-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like **THE CELEBRATED BRAMPTON CHAIN** because some of the other chain makers began to copy the design and shape of the **BRAMPTON CHAIN** links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the **BRAMPTON CHAIN** than ever before. These chains somewhat resemble the **BRAMPTON** in appearance, but the manufacturers of such chains have been unable to copy the material—self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the **BRAMPTON MOTOR CHAIN** in the past ten years.—**"ENUF SED."**

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the **BRAMPTON FILLS THE BILL**, and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size—as follows:

CHAINS TO FIT AMERICAN CARS

1 x ⅜ x 9-16—1 x ½ x ⅝—1 x ½ x 9-16 roller	$1.00 per foot.
1 x ⅝ x ⅝ roller	1.17 "
1¼ x ½ x ⅝—1¼ x ⅝ x ⅝—1¼ x ⅝ x ¾ roller	1.25 "

We also carry in stock the **BRAMPTON CHAINS** to fit Foreign Cars—Mercedes, Panhard, Martini, Fiat, etc.

Your 1908 Car

You can have the new car that you order fitted with the **CELEBRATED BRAMPTON CHAIN** if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.

Agents wanted in unoccupied territory. Catalog on request.

We are Sole American Agents for **BRAMPTON CHAINS**, and they cannot be bought from anyone else except through our Agents.



Pan-American Automobile Body Polish

Pan-American Polish was awarded the Bronze Medal at the Louisiana Purchase Exposition at St. Louis, 1904. This polish has been carefully prepared for the Automobile trade. It is also applicable to the carriage trade, or can be used on any varnished furniture or woodwork of any kind. It will remove stains, cover scratches; leaves the automobile with its original new lustre, without being sticky or greasy. Furnished in eight-ounce bottles. Guaranteed not to harm the finest varnish. For sale by all Automobile Dealers. **Price 60 cents per bottle.**

The Miller Automobile Jack

The Miller Automobile Jack is a quick acting, automatic lowering jack, designed especially for automobile use, and is adapted to the factory or garage as well as to be carried as a part of the equipment on motor cars. It is high-grade and one of the finest finished jacks on the market. We guarantee this jack for twelve months. The list price of the Miller Jack, **$3.50 each.**



CHAS. E. MILLER

Manufacturer, Jobber, Exporter and Importer

Home Office: 97-99-101 Reade Street, New York

Branches: 54th St. and 8th Ave., New York. 202-204 Columbus Ave., Boston, Mass. 318-320 N. Broad St., Philadelphia, Pa. 227½-229 Jefferson Ave., Detroit. 1829 Euclid Ave., Cleveland, O. 824 Main St., Buffalo. 1392 Bedford Ave., Brooklyn, N. Y.

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Empire Tires
WEAR LONGEST

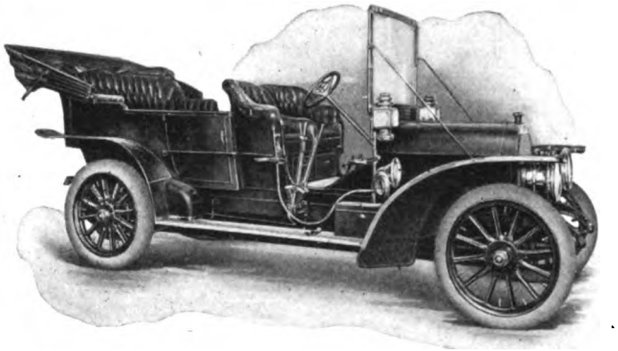
EMPIRE AUTOMOBILE TIRE COMPANY, - TRENTON, N. J.

New York, 148 Chambers St., and Broadway and 73d St.; Boston, 292 Devonshire St.; Buffalo, 724 Main St.; Fobes Auto Supply Co., Portland, Ore.; Fobes Auto Supply Co., Seattle, Wash.; Waite Auto Supply Co., Providence, R. I.; Chicago, 1301 Michigan Ave.; Atlanta, Ga., Dunham Rubber Co.; Denver Auto Goods Co., Denver, Colo; Penn Auto Supply Co., Philadelphia, Pa.; Savell Rubber Co., Jacksonville, Fla.

Matheson

ONE YEAR GUARANTY

Write for our complete catalogue and book of customers' letters. How well we have succeeded in building the best motor car in all the world is told by our customers themselves, who, as a class, are the most prominent men of affairs in this country.



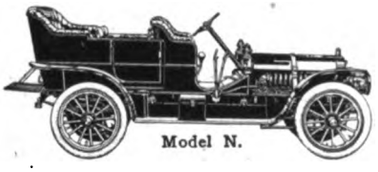
DEALERS—New York City, A. G. Southworth Co., 1733 Broadway; Boston, Mass., Matheson Co. of Boston, 1230 Massachusetts Ave., Cambridge, Mass.; Philadelphia, Pa., Noblit & Fassitt, cor. Broad & Cherry Sts.; Pittsburg, Pa., Matheson Agency, 41 Leader Building; Baltimore, Md., Matheson Co. of Maryland, 1002 Morton St.; San Francisco, Cal., Matheson Co. of California, 442 Golden Gate Ave.; St. Louis, Mo., South Side Auto Co., 2339 S. Grand Ave.; Albany, N. Y., Albany Garage Company, 28-30 Howard St.; Binghamton, N. Y., H. D. Clinton Auto Co.; Fort Wayne, Ind., Straus Bros. & Company; Middletown, N. Y., Empire Garage Company; Portland, Ore., H. L. Keats Auto Company, 80-82 Seventh St.; Rochester, N. Y., Rochester Automobile Company; Williamsport, Pa., Rothfuss-Howard Iron Works; Long Branch N. J., Long Branch Auto Co.

Dealers are wanted in all localities where we are not now represented.

MATHESON MOTOR CAR CO., MAKERS, Wilkes-Barre, Pa.
Licensed under Selden Patent.

National
Motor Cars

afford the purchaser the very best value to be had on the market at present. All Nationals are equipped with Ball Bearings throughout, including the motor.


Model N.

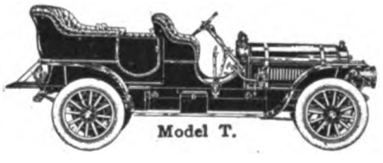
Model K - 4 cyl., 4⅞ x 5
$3,500

Model N — 4 cyl., 5 x 5
$3,700

All Nationals have two complete systems of ignition.

Model R - 6 cyl., 4½ x 4¾
$4,200

Model T — 6 cyl., 5 x 5
$5,000


Model T.

Write for particulars and our Booklet **"What Owners Say About Their Nationals."**

National Motor Vehicle Co.
1007 E. 22d Street INDIANAPOLIS, IND.

THE OLDSMOBILE

is not only the **World's Best Car,** but one of its oldest and most famous. It gives prestige to both owners and agents.

Model M	Model MR	Model Z
Touring Car, Fully Equipped,	"Flying Roadster," Fully Equipped,	6-Cylinder, 130-inch Wheel Base,
$2,750	$2,750	$4,200

OLDS MOTOR WORKS, Lansing, Mich., U. S. A.
Members A. L. A. M.

Canadian Trade supplied from Oldsmobile Co. of Canada, Toronto, Ontario.

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"Firestone"

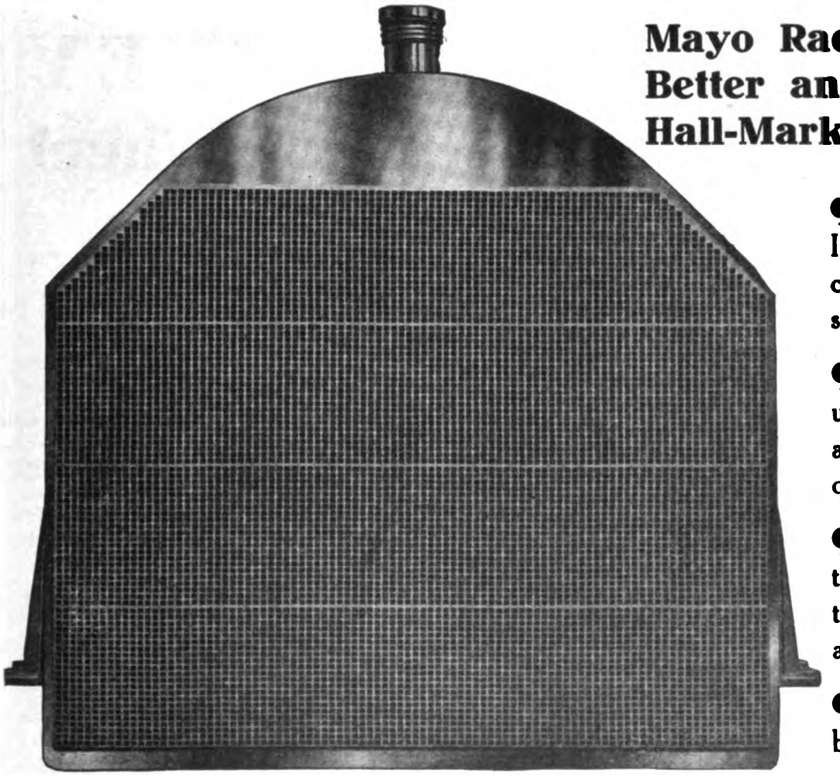
Pneumatic Tires

"THE TIRES OF STERLING QUALITY"

are today placing the highest standard for Pneumatic Tires, just as Firestone Solid Tires are the standard by which all solid tires are compared. In their manufacture they are given the very best workmanship and the closest possible inspection, insuring absolute satisfaction to the user.

WE FURNISH TIRES TO FIT ANY RIM.
Branches and Agencies Almost Everywherere.

FIRESTONE TIRE & RUBBER CO., Akron, Ohio



Mayo Radiators Make a Good Car Better and Their Use on a Car is a Hall-Mark of Quality.

¶ Mayo Radiators are made in a quality shop. In their construction no expense is spared, no crude methods obtain. In their use complete satisfaction results.

¶ Mayo Radiators perform their functions well under all conditions—and conditions at times are exacting. It is at just such times that Mayo quality asserts itself.

¶ The engineer can eliminate possible radiator troubles from his calculations by the adoption of the best possible radiator. The test of years and use has proved that we make it.

¶ Our capacity limit on new contracts is rapidly being reached.

MAYO RADIATOR COMPANY, New Haven, Conn.

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If you want good tire service and are not getting it; or,

If you believe it possible to reduce your present yearly tire bill—

a comparative test of

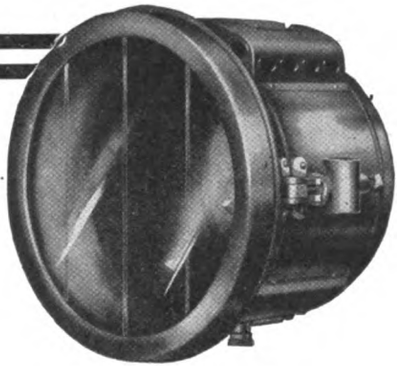
MORGAN & WRIGHT TIRES

on the same car with other brands, will satisfy you that such a result can be had—and without any extra cost over the price you pay for other tires.

YOU CAN'T DO A BETTER THING THAN TO "TRY THEM OUT"

MORGAN & WRIGHT, Detroit

Branches, Agencies or Dealers Everywhere



To Sum Up—

Solar Motor Lamps are superior to those of other manufacture for the following reasons:

(1) The internal method of screw assembling insures a perfectly smooth exterior. (2) All parts are interchangeable. (3) They have fewer parts. (4) Are more simple in construction. (5) Less solder is used. (6) The brass has more "body"—they are heavier and more durable. (7) They are better in design. (8) Special B & L Solar short focus Mangin Mirrors are used and each lamp is tested for accuracy of focus. The highest efficiency as regards lighting is assured.

No detail is overlooked in the construction of Solar Lamps. The Solar Nameplate is a positive guarantee to the user that he has the best in lighting equipment.

Write for a copy of our 1908 catalog.

BADGER BRASS MFG. CO.

606 Lyman Ave., KENOSHA, WIS.

Solar Lamps SHOW THE WAY

THE STEPNEY Spare Motor Wheel

ON AND GONE IN LESS THAN A MINUTE



Punctures and other tire troubles have no terrors for the motorist whose car is equipped with the **STEPNEY WHEEL.** If a tire goes wrong it is only the work of a moment to attach the **STEPNEY WHEEL** and be off again with no further delay.

Isn't it worth having, for the peace of mind alone that it brings?

Write for Catalogue D.

Spare Motor Wheel of America, Ltd.

236 Michigan Avenue, CHICAGO, ILL.

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AJAX
WRAPPED TREAD TIRES

After all is said
and done,
no matter how
glowing
the promises of
tire makers,
the only thing you have
to tie to
is
the word
of the dealer who
sells you.

If the tire
goes bad
you have the privilege
of carrying on
one end
of a controversy
with the factory—
that's all.

The tire maker
makes good—or doesn't
as he sees fit.

There's one exception—
AJAX—

Every AJAX tire
is guaranteed
for 5000 miles.

Write for copy of Guarantee, stating what size tire you are using.
Address Dept. A.

AJAX-GRIEB RUBBER COMPANY
GENERAL OFFICES: N. E. Cor. 57th St. and Broadway, New York.
Factories: Trenton, N. J.
BRANCHES:
New York, 1776 Broadway — Denver, 1529 Cleveland Place
Boston, 819-a Boylston St. — Seattle, 1102 Broadway
Chicago, 1418 Michigan Ave. — San Francisco, 460 Golden Gate Ave.
Detroit, 743 Woodward Ave. — Los Angeles, 1040 S. Main St.
Agents in all large cities.

The "Maxwell"

THE RUMOR SEASON

is here again, just as it always comes with the regularity of the malaria germ, or the hay-fever, or the June-bug; only it becomes more virulent as it gets older.

The Whooper Company—so Dame Rumor says—will have a world-beater in the shape of a motor that has more cycles to it than you have fingers and toes, to sell at —$. Just wait and see.

The Spouter Company has something up its sleeve that will be a combination of features as variegated as the ingredients in a mince pie, to sell at — $. They will show you later.

The Holler Company has a new startler of the wait-till-we-show-you-and-get-left kind, a conglomeration of metals so diversified as to make the most enterprising experimenter in the mixer of metals quit his job in disgust, and it will sell at — $. A lick and a promise.

And so it goes on—if you have been in the business long enough you will know the story.

Not so facetious, but similar in trend, are the reflections as one scans the horizon of trade promises. I have been asked what we are going to do, and when I started to write this ad it was to give the answer:

We have found that with Maxwell principles of automobile construction and with honest manufacture and decent selling methods old terra firma is a good enough place to do business on and we are going to stay on earth, saving ourselves the trouble to come down again after the soaring flights of fancy in which some of our friends now indulge.

We are in the automobile business for the profits that are in it, and we are satisfied with the results. It pays to build the only good moderate priced automobile. Our dealers are satisfied, for they, too, find legitimate effort rewarded with a legitimate profit. Maxwell owners are satisfied, because they know that they possess a car that will give satisfactory service at minimum expense, every day in the year, and that looks as stylish and imposing—without extra charge for the style and imposition—as the highest-priced cars made anywhere. Being built upon well-tried design and honestly made they are free from the find-me-out-later-on handicap of some other manufacturers.

We will sell Maxwell cars, some ten thousand of them, at legitimate prices—prices high enough to give to our dealers and to ourselves a legitimate profit and low enough to give to every purchaser the full value of his money.

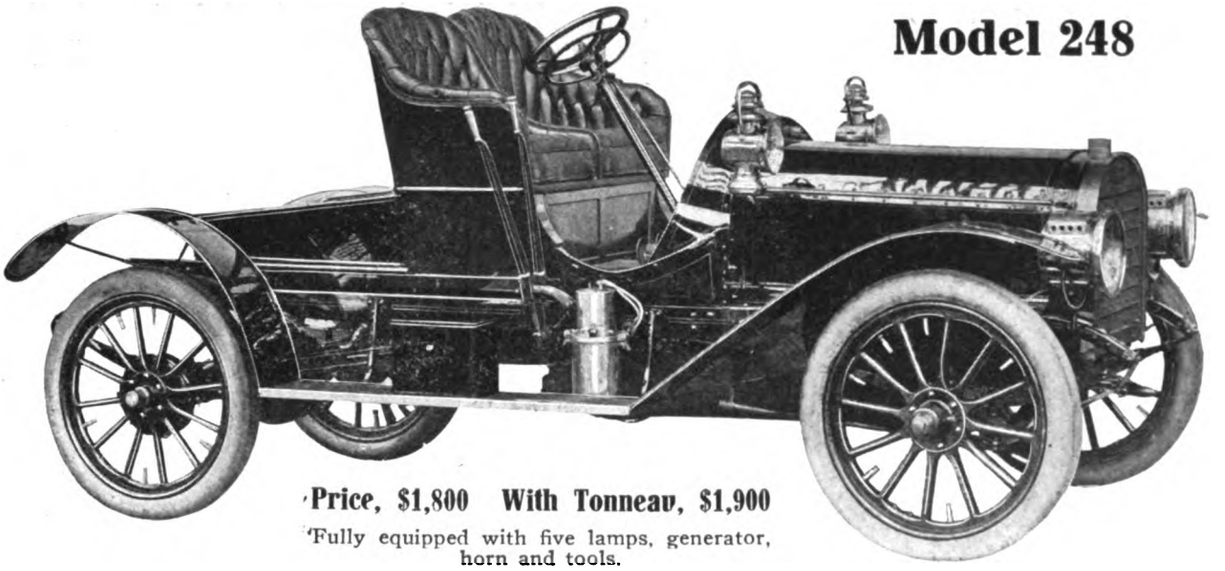
The only change we will make will be in the distribution of profits resulting from the sale of Maxwell cars. Here the new arrangement will favor the individual dealer, giving the hustler the hustler's reward. If you are a hustler we want you and you will want us So let's get together as soon as possible. Write to me now, telling me something of your territory and its sales possibilities, and I will communicate with you and tell you of the new Maxwell selling plan, the plan for business-getters.

Benj Briscoe
President.

MAXWELL-BRISCOE MOTOR CO.
Members A. M. C. M. A.
P. O. Box 106, Tarrytown, N. Y.
Factories: TARRYTOWN, N. Y. NEWCASTLE, IND. PAWTUCKET, R. I.

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Rambler



Model 248

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THE MOTOR WORLD

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MAKERS OF SPEEDOMETERS CONFER

Problem of Regulating Prices the Subject of Discussion—No Action Taken, but Another Meeting is Probable.

Following the successive conferences of first the tire manufacturers and next the lamp makers, a meeting of those manufacturers of speedometers who are members of the Motor and Accessory Manufacturers, Inc., was called by D. J. Post at the Hotel Belmont, New York, on Monday of this week.

Its purpose, like those of the two meetings which preceeded it, was to try to devise ways and means for the proper regulation of prices and their maintenance, and the correction of such abuses and shortcomings as have gradually developed.

Representatives of three concerns were present and while it was admitted that some dealers were guilty, it was conceded that the jobbers were the worst offenders, and their regulation a difficult matter unless by the drastic method of elimination. As is generally known, one prominent maker has already practically done this very thing. He has secured proof of violation of price contracts and has gone even further by searching out reputed offenders, and where proof is secured inflicting the penalty of cutting them off the list. This position, he announced, will be maintained, and while its logic is admitted, its expediency is questioned unless all the makers are brought into line and agree to act in unison and in good faith.

It is likely that a further meeting will be called at which some definite plan will be submitted for action.

Crown Battery Seeks Dissolution.

Judge Blanchard of the New York Supreme Court has appointed Jacob J. Long, receiver of the Crown Battery Co., 192 Southern Boulevard, New York City. Mr. Long with John R. Pettit, both directors of the company, petitioned for its voluntary dissolution. The company's liabilities aggregate $6,855; the assets comprise cash, $4; accounts, $904; plant and machinery, value not stated. The Crown Battery Co. was incorporated March 1, 1907, with a capital stock of $20,000, increase to $50,000 on February 1, 1908, and was engaged in the manufacture of dry cells and electric batteries.

Payment of Pope Dividend Ordered.

Vice Chancellor Howell of the New Jersey chancery court has signed an order directing the receivers of the Pope Mfg. Co. to pay a 25 per cent. dividend on all approved claims against the company. The dividend was conditionally authorized several weeks ago to take place as soon as the $50,000 was received from the sale of stock of the American Wood Rim Co., owned by the Pope company and which was sold to E. J. Lobdell, the head of the wood rim pool.

The order also directs the receivers to set aside $65,000 for the future payment of 25 per cent. on the claim of Louise A., Josephine, Anna L. and Otto F. Unzicker, who are owners of premises formerly occupied by the Western Wheel Works, in Chicago, which had been leased by the Pope company, which lease at $25,000 per year, has 17 years to run. The receivers are further ordered to deduct from the dividend due the International Trust Co. of Boston the amount of money on deposit with it to the credit of the Pope company at the time of the appointment of the receivers.

In accordance with the order, checks were mailed to the creditors this week. It is expected that a second dividend of 25 per cent., if not more, shortly will be declared.

Standard Rim Bobs Up Again.

A meeting of the committee on the standardization of rims was held on Monday of this week, and declared for a continuation of the present policy—whatever that may be. A standard rim is likely to be adopted just as soon as it is decided which rim is best.

SPEEDOMETER COMPANY ASSIGNS

Trustees Appointed for the R. H. Smith Mfg. Co., of Springfield—The Step Taken for Protection of Creditors.

Following only a short time after the nominal reorganization which was occasioned by the shocking death of R. Hale Smith, its former president, the R. H. Smith Mfg. Co., Springfield, Mass., assigned to Robert A. Knight and Charles H. Beckwith, trustees, late last week. The action was taken on behalf of and by the consent of creditors representing a large part of the company's liabilities, which are said to total approximately $50,000, and was purely a protective measure.

Both the rubber stamp and speedometer business, which represents the company's invested capital, are in profitable condition, Attorney Knight declared in a recent interview, and for that reason, there is likely to be no change in the conduct of the business. The main reason for the assignment, he said, was simply that the business had outgrown its capital. The company is capitalized at $20,000. Notice of the assignment was issued to the creditors in the form of the following communication under date of Friday, 26th ult.:

"The R. H. Smith Manufacturing Co. of this city, deeming it advisable for the protection of its creditors, has this day made an assignment to the undersigned for the benefit of its creditors. An inventory is being taken, which will soon be completed, and you will then receive from us a copy of the same, with a copy of the instrument of assignment and further information regarding the condition of the company.

"Respectfully yours,

(Signed)

"ROBERT A. KNIGHT,

"CHARLES H. BECKWITH,

"Trustees."

Just what definite course will be pursued to take care of the company's liabilities is uncertain, according to Attorney Knight. He said the company had about

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3,000 of the Smith speedometers in stock, and steps would be taken immediately to convert some of the company's assets into cash.

It was said that the rubber stamp business had been unusually successful over a period of 25 years, and has in that time contributed handsome profits to the company. The speedometer, which was taken on by the company about three years ago, is regarded to-day a mechanical success.

Through the three years that the speedometer business has been carried by the company, however, the progress on the invention has been largely experimental, a process which has been costly and has consumed the company's surplus. To-day, when the business is actually on a paying basis, it is asserted, the interests of the company's creditors as a whole demand that the business be safeguarded in order to prevent a smash.

Fiat Absorbs Palais de l'Automobile.

By a deal effected on Saturday, 27th ult., the Fiat Automobile Co., of New York City, becomes exclusive American distributors of Delaunay-Belleville cars and subagents for Renault and Panhard cars. On that date the company officially absorbed the Palais de l'Automobile, having previously effected a union with the Auto Import Co., sole American agents of Rochet-Schneider cars. H. Nepbauer, former manager of the Palais de lAutomobile, becomes second vice-president of the Fiat Automobile Co., and on July 1 will take up his office in the new headquarters of the latter at No. 1786 Broadway. E. Rand Hollander remains first vice-president and general manager of the enlarged company.

The cause of the absorption, first of the Auto Import Co. and then of the Palais de l'Automobile, is declared to be directly due to the lowering of Fiat prices to an American basis. The sales of Rochet-Schneider and Delaunay-Belleville cars were considerably affected and unable to meet the Fiat prices. Negotiationswere opened in behalf of both of these makes that have ended in the consolidation of all three. While Fiat cars will constitute the principal output of the company, users of the other makes will be looked after.

Changes in the Winton Staff.

Following the promotion of Charles W. Churchill, formerly New York branch manager, to the general sales management the Winton Motor Carriage Co., announces other changes in the staff. Charles M. Brown, San Francisco branch manager and formerly manager of the Winton branch in Chicago, has been named to take the management of the New York branch. Harry L. Owesney, assistant manager of the San Francisco branch, becomes manager of that branch. The company also announces that W. L. Duck, former London branch manager, will be manager of the Baltimore branch, vice R. H. Williams, resigned.

The Week's Incorporations

Long Beach, Cal.—Electric Automobile Co. of Long Beach, under California laws, with $10,000 capital.

Dover, Del.—Guaranteed Faultless Auto Tube Co., under Delaware laws, with $1,000,000 capital. Corporators—F. N. Hipple, J. W. Ebbs, M. L. Ward, New York City, N. Y.

Chicago, Ill.—North Automobile Co., under Illinois laws, with $2,500 capital; general manufacturing and merchandise business. Corporators—A. B. Pease, L. Pierson, George A. Miller.

Jersey City, N. J.—Elkwood Park Automobile Association, under New Jersey laws, with $10,000 capital; to hold and manage automobile races, exhibitions, shows, etc. Corporators—B. S. Mantz, J. R. Turner, R. R. Thien.

New York City, N. Y.—S. P. O. Automobile Co., under New York laws, with $25,000 capital. Corporators—Jules Godefroy, 316 West Twenty-fifth street; Albert M. Newburgh, 150 Nassau street; Anna H. Peyser, 245 West 111th street, New York City, N. Y.

Camden, N. J.—Grant-Hoover Ball Co., under New Jersey laws, with $200,000 capital; to manufacture ball and roller bearings for axles of trucks, railroad cars, wagons, carriages, etc. Corporators—R. H. Grant, L. J. Hoover, V. E. Frank, Camden, N. J.

New York City, N. Y.—Central Park Taxicar Co., under New York laws, with $10,000 capital. Corporators—Henry Schultz, 1864 Seventh avenue; George Hahn, 160 East Ninety-fifth street, New York City N. Y.; C. Bertram Plante, 763 Eastern Parkway, Brooklyn, N. Y.

In the Retail World.

The Ellicott Motor Car Co., Buffalo, N. Y., has been discharged in bankruptcy.

W. R. Barger has arranged to open an exclusive Cadillac agency in Cleveland, O., on Euclid avenue, just east of the Hartford Rubber Co.'s local branch.

Thomas G. Miller and Charles F. Holden have opened a new garage in Colorado Springs, Col., at the north end. They have secured the agency for the Gearless car. Their garage is at 1206 North Cascade avenue.

The Lakeside Automobile Co., of St. Louis, has reorganized as the Swingley Motor Car Co. J. A. Prescott continues in the position of manager. The company handles the Car de Luxe, Jackson and Stoddard-Dayton.

Vice-Chancellor Howell at Newark on the 24th ult., appointed William H. Brown receiver of the Hygrade Motor Co., 9 Hill street, Newark. Insolvency is alleged in a bill filed for J. Harry Hardman, the petitioning creditor.

T. Browning Spence has bought a majority of shares in the Pope Automobile Co., Washington, D. C., and will be elected president of the company. C. Royce Hough, who has been manager since 1899, will be retained in that position.

Among losers by a fire in the building 1525-1531 Maryland avenue, Baltimore, on the 25th ult., was the Maryland Auto Tire Repair Works. The building was so badly damaged that it has been condemned and all the occupants have been ordered to vacate.

W. Wayne Davis is manager of the new Matheson branch in Philadelphia, which was opened on the 29th ult. It is located at Broad and Green streets. Mr. Davis is chairman of the automobile committee for "Founders' Week," when the Quaker City will celebrate its 225th anniversary. The appointment was made by the mayor.

On July 1 of this week, the Harry Fosdick Co., long identified with the automobile interests of Boston, Mass., retired from business. The lease of their store in the Motor Mart has been taken up by the Buick Motor Co., which established a Boston branch at that place on the date named.

Otto Braunworth, proprietor of the Broadway Rubber Tire Works, Manhattan, has opened an automobile supply store at 53 West Fifty-third street. He will conduct it in conjunction with his tire repairing plant next door. Hereafter his business will be conducted under the name of the Broadway Auto Accessory Co.

The Augusta Motor Co. is the designation of a branch house to be established in Augusta, Ga., by the Charleston Motor Co., of Charleston, S. C. L. M. Coward is making the local arrangements and has secured a location at 712 Ellis street. The company will conduct an agency for five different manufacturers.

C. A. Coey & Co., Chicago, filed four "automobile debt" suits in the municipal court on the 26th ult., one of which may interfere with the debtor's intended trip to Europe. In this case the Coey Automobile Livery Co., also has a suit, the claim being for a storage bill amounting to $1,000. Conrad Seipp, Jr., is the defendant, and the bill of C. A. Coey & Co. is for an alleged balance of $2,000 on a new machine. Another of the suits is against M. B. Hereley, traction expert for the city, from whom the firm wants to collect $5.000, alleged to be due for a new car. The Coey Automobile Livery Co. adds another suit to the four of the Coey firm, making five in all.

Cadillac to Open a New York Branch.

The Cadillac Motor Car Co., of Detroit, Mich., has decided to open a New York branch, from whence all their eastern business will be handled. Temporary quarters have been taken at Broadway and Fifty-first street, and early in the Fall they expect to occupy a new building now in course of erection. Ernest H. Brandt will be in charge.

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TARIFF BARS AMERICAN TIRES

Discriminative Duties Practically Close the French Market—One American Type Manufactured in France.

Although rubber tires are not listed separately in the statistics of American exports, it is generally known that the foreign market has not been extensively cultivated by the American tire makers. A valid excuse for this state of affairs, at least as existing in France, is furnished by Consul-General Robert P. Skinner, of Marseilles, who points to the duty wall which blocks the way, and which amounts to practically 8 cents per pound, as against 6 cents a pound levied against tires imported from other countries.

"A very serious obstacle to the creation of a demand in France for rubber tires of American manufacture is the application of a duty upon such tires of 90 francs per 100 kilos ($17.37 per 220 pounds)," says Consul-General Skinner. "The consequence is that importations from the United States have been unimportant. It is impossible to furnish any reliable statistics regarding the trade, as rubber tires are comprised with a long list of other articles in rubber.

"One well known American house, appreciative of the difficulties of disposing of American tires in France, has passed over to a French firm its patent rights, with the result that, as in several other lines of industry, 'American' solid rubber tires are being very extensively sold in this country, although there is nothing American about them except the type.

"The general demand is said to be for a solid tire through which run two parallel steel wires. A pair of tires for wheels 39.37 inches in circumference commands from $24.30 to $35.90, according to the thickness of the round rubber, and flat tires for wheels of the same size run up to $96.50.

"Very few imported automobile tires are sold in this market for the same reasons as in the preceding case. Prices are steadily descending, in sympathy with the cost of raw rubber. It is said that $160,000 worth of these tires were sold last year in this city. The tires offered for sale are being improved annually, not in respect to the rubber portions, but as regards the canvas linings.

"It is calculated that a smooth-surface tire should run between 5,000 and 6,000 kilometers (3,106 and 3,728 miles), while the anti-skidding tires are hardly good for more than 4,000 kilometers (2,485 miles) on French roads. It is comparatively seldom that one sees a general service automobile in cities without at least one nail-shod tire. There is quite a variety of these devices, some being nail-shod leather envelopes, others metal nails on the rubber envelopes, and still others rubber nails which are a part of the rubber envelope itself. Eventually the nail wears through the canvas linings, and then repairs are difficult. The use of chains woven about smooth tires, such as are seen in New York, would not be permitted here under any circumstances. As it is the nailed tires are doing incalculable damage to the roads."

How Consular Advices Benefit Trade.

Interesting as showing the beneficial results obtainable by following up advices received from the American Cansular Service, is the result of one such hint which recently reached the officers of an association of automobile manufacturers. Consul Miller, of Matamoros, advised them that there was not a single automobile in that Mexican district. Acting on the suggestion, numerous catalogues were sent out by the members of the association, in consequence of which, at least two sales are in immediate prospect, while in a third case, the establishment of a 25 mile motor 'bus line from Matamoros to the seashore is contemplated. As there is no railroad transportation in the immediate vicinity of the proposed route, the scheme is very favorably regarded. The trial equipment, it is said, is to be rented at Brownsville, Tex., pending developments which will warrent a more extensive outlay of capital.

Kansas City Developing a Motor Buggy.

Although formerly devoted exclusively to the production of commercial vehicles, the plant of the Kansas City (Mo.) Motor Car Co., at Sheffield, is at present occupied with the development of a motor buggy, which is being built under the direction of A. R. Walton, formerly with the Dorris Motor Car Co., of St. Louis. It is intimated that a "deal" is in prospect whereby a local implement firm will take over a certain number of the cars provided they work out in a satisfactory manner. A reorganization of the company, which has been in financial difficulties for some little time, is said to be among the early prospects.

Reeves on the Road to Recovery.

The many friends of Alfred Reeves, general manager of the American Motor Car Manufacturers' Association, who was operated on for appendicitis on the 24th ult., at St. John's Hospital in Yonkers, N. Y., will be glad to learn that he has passed the critical stage of his illness and is convalescing rapidly. He expects to be able to resume his regular work about the middle of the month.

Makes a Second Offer for Pope Claims.

The Chicago concern which makes a business of doing such things, has offered creditors of the Pope Mfg. Co. 85 per cent. of the face value of their claims. About a month ago, it made a similar offer of 75 per cent.

CUSHION SPRINGS IN LITIGATION

Infringement of the Stotts Patent Alleged Against a Kalamazoo Manufacturer—Three Corporations Involved.

Springs of the type commonly employed in automobile upholstery and embodying the auxiliary or supplementary spring feature, are furnishing subject matter for litigation in the United States Circuit Court for the Western District of Michigan, in which Rummler & Rummler, patent attorneys for the Ventilated Cushion & Spring Co., of Jackson, Mich., have brought suit against Frank P. D'Arcy, of Kalamazoo, Mich., for infringement of what is known as the Stotts patent. The proceedings are based upon the production by D'Arcy of a spring construction which has been advertised and described as the product of the D'Arcy Spring Co., of Kalamazoo. This device, it is alleged, constitutes an infringement of five different claims of the Stotts patent.

The construction of the D'Arcy spring differs from that employed by the Ventilated Cushion Co., in that it omits the connection between the upper ends of the short or auxiliary springs, and also in that it has the short springs so set into the bottom frame as to permit of a slight lateral shifting. Otherwise, it is said to be similar in principle.

The Stotts patent for "Spring Structure," was issued on January 8, 1907, and assigned to the Ventilated Cushion & Spring Co., a month later. It is one of a group of patents owned by the company and reinforced by applications for others, bearing on the same subject and completely covering spring structures with auxilliary or supplementary springs, as is claimed.

The action, though taken by the Ventilated Cushion Co., also covers the rights of the Jackson Cushion Spring Co., of Jackson, Mich., licensees of the former concern, who are thereby afforded protection against the manufacture, sale and use of infringing spring constructions.

Boston Gets Taximeter Cab Service.

Fifty Thomas motor cabs were put into taximeter service in Boston, Mass., last week by the Taxi Motor Cab Co., under the direction of William P. Barnhart. The company's headquarters are located in the Park SquareMotor Mart, and substations are to be established at all leading hotels, clubs, cafes, and at both railroad stations. The usual tariff of 30 cents for the first half mile, and 10 cents for each succeeding half mile, or each six minutes waiting, will be charged. The plans for this first introduction of the taximeter vehicle into the Hub call for an ultimate equipment of 150 vehicles, to be installed as soon as conditions warrant.

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WHITE WINS

A Partial Summary of Victories, May, 1907-May, 1908

Perfect Score in Harrisburg Endurance Run

Tieing with three other cars in the contest of May 5th-6th, 1907. For the result of the "run-off," see below.

Fastest Time in Wilkes-Barre Hill-Climb

Defeating 45 high-powered gasolene cars, in the great contest on Decoration Day, 1907.

Fastest Time in Cleveland Hill-Climb

Defeating 40 high-powered gasoline cars.

Fastest Time in California Hill-Climb

Defeating the fastest of its gasoline competitors by nearly two minutes on the 2⅞ mile hill at Witter.

Perfect Scores in Sealed Bonnet Contest

Both White cars entered made perfect scores in this contest conducted by the Automobile Club of America.

Officially Observed Non-stop Run of 1871 Miles

Held under the auspices of the Royal Automobile Club of England and certified by that organization.

Fastest Time of the Season on the Track

One mile in 1:02, ten miles in 12:54, and twenty-five miles in 29:07 at the Santa Rosa Track Meet.

Officially Declared Most Efficient Car

In the South Harting hill-climb, conducted by the Royal Automobile Club, the White won the contest because it developed at the rear wheels a greater percentage of its assigned horsepower than did any other car. The rating assigned to the White was 50 horsepower.

Wins English Dust Trials

Proving officially that it raises less dust than any other car.

Clean Sweep in the Glidden Tour

Three White entries make three perfect scores.

Won Hower Trophy

The single White runabout entered in the Glidden Tour defeated a dozen high-priced gasoline runabouts competing for this prize.

Won California Reliability Contest

In the original contest held September 20th, two Whites tied with two gasoline cars. In the "run-off" held November 15th and 16th, both Whites made perfect scores, while both gasoline cars were penalized.

Won Quaker City Endurance Run

In this contest, held January 1st, 2d and 5th, the White vanquished 27 gasoline cars of 23 leading makes, winning the MacDonald & Campbell trophy.

Fastest Time in San Francisco Hill-Climb

Winning the free-for-all, the $2,500 class and the $3,500 class.

Fastest Time in the New York Carnival Hill-Climb

Making the ascent of Fort George hill in 32⅕ seconds, compared with the best gasoline time of 36 seconds; largest entry list of any hill-climb ever held.

New San Francisco-Los Angeles Record

The White car made the 478-mile mountainous journey in 17 hours and 17 minutes, cutting 56 minutes from the previous figures.

Double Victory in Harrisburg Endurance Run

The single White entry was the only touring car to make a perfect score, winning the principal 1908 trophy, the Board of Trade Cup, and also the 1907 prize in a "run-off" with last year's other perfect-score drivers.

Perfect Score in Detroit Endurance Run

Perfect Score in Baltimore Sealed Mechanism Contest

Two Perfect Scores in Kansas City Reliability Run

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Elimination of the "Season Feature."

A striking feature of the present season is the great number of new models which are being brought out—whether in anticipation of the market of 1909, or as timely additions to the present listings, does not matter in this connection. The fact that practically all of these machines are designed with a direct view to general utility, whether in veritable commercial operation, or as pleasure cars for all around service, also need not be considered; nor the fact that a very great proportion of them are of the so-called popular type. The very essential point in connection with the frequent use of the numerals 1909, is that when the new calendar shall have arrived, it will find a great majority of the makers prepared for the season, and it will unfold a market in which will be listed for the most part, only cars which have been tried out and refined to the complete satisfaction of the makers.

This elimination of the "season feature" in the industry, which has been practically assured for some little time, also has an important bearing on the display of machines at the shows. It means, in the first place, that the old, familiar and nerve-racking rush to get ready the various exhibits for the show will soon become a thing of the past. Changes in the market will come more slowly than heretofore, and the makers will no longer strive to have an entire new line for every exhibition of national importance which is held. The dubious proof of undue haste, which has been so marked hitherto, when cars frequently were shown incomplete, or were finished after being placed in position, will be visible no longer, and the show will become an exposition of what exists, rather than of what is planned for the future, more or less contingent on the results of the show itself.

If one great fault existed in nearly all shows of the past it was that their exhibits, many of them, were of too visionary a nature to be satisfactory to the careful buyer. The invariable consequence was that the actual results of show campaigns, did not appear until long afterward, when the cars themselves were actually ready for delivery, while many of the sales booked at the shows, did not materialize as expected. With the new order of things, this will be changed. Buyers will be able to examine a finished and satisfactory product under the most favorable of conditions, while the makers will be saved a vast deal of overtime rush work in preparation for them, and will have the confidence bred of handling a known product, in presenting their wares.

Evils of Overstating the Output.

One of the most insidious evils to which the automobile industry has fallen heir is the tendency to the circulation of stories of huge outputs, such as are wont to make their appearance from time to time. Superficially it might appear that these rumors —many of them are hardly more—could have no effect other than to attract attention to the particular makes of car with which the inflated figures happen to be associated. Actually, the result is far more searching and reaches to the very heart of the industry, while the public, upon which the effect would be supposed to fall directly, suffers only in a secondary and rather roundabout way.

To the prospective buyer, stories of the immense production, of one or another of the makers acts primarily as a stimulant to investigation. A natural conclusion which in many cases follows immediately afterward, is that at the visible rate of present consumption, this great number of machines cannot be disposed of at present prices. The result is a strong temptation to wait for a cut in prices. This temptation is increased by the inbred conviction in the breast of the average man outside the confines of the industry, that sooner or later an era of automobile bargains will arrive—just how, does not matter.

But even more disastrous than the delaying of a few orders from individual owners, is the corresponding effect upon the agents. In this case, however, the effect is emphasized by a close comparison of the figures of other maker's outputs, garnered from the press, and from the channels of trade gossip. Where it is commonly believed that a maker's output is exceeding the probable demand for his product, the shrewd dealer inclines, like the shrewd customer, to wait for bargain day. Where, on the other hand, rumor and gossip concur in rating a maker as successful on a large scale, the tendency is for the agent to overrate his own selling ability and the possibilities of his own corner of the field, and to make demands for a greater number of cars than he can profitably handle.

In any case, the maker about whom such reports are current, is placed on an insecure and treacherous footing thereby. Stories of voluminous output may lead to rumors of overproduction, on the one hand, or they may lead to over-confidence on the part of agents, to unwarranted volume of orders, and so to the glutting of the market. So long as the reports are exaggerated, there is danger of disaster from any and every quarter.

A point which is seldom considered in the retailing of such reports is that it takes a vast amount of time and money to prepare to manufacture on a really large scale. A big plant, expensive equipment, trained forces, unfettered capital, are some of the items which must be figured in forecasting an extraordinary output. Manifestly, in more than one case where such stories are applied, it is a physical impossibility for more than a moderate amount of material to be turned out in the course of a season. Consequently, unless a manufacturer is known to have more than ordinaily extensive facilities, reports of more than ordinary magnitude of production must be received with caution, and must be regarded in the

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light of either an unfortunate circumstance or a mistaken policy. Always their effect is apt to be disastrous.

Psychological Aspect of Speed Problem.

To the student of psychology an interesting question is presented by the apparently honest declaration of motorists, who are arraigned in court charged with exceeding speed limits, that at the time of arrest, the vehicles which they were driving were not traveling at nearly so fast a speed as that specified in the complaint. Seldom indeed does the accused admit the rectitude of the assertion of the arresting officer, as to the time required to cover a measured distance. Invariably—one might almost say with truth, never—does the defendant in cases of this sort agree with the statement made by the policeman. The question therefore is, does the prisoner deliberately and intentionally lie, or is he making a plea to the court which he himself really believes to be honest?

To those who are familiar with the smoothness of the motion, with the lack of vibration and of noise which accompanies a well balanced, high powered car when traveling at a speed of 20 to 25 miles an hour, there is given an understanding of the reasons which may account for an honest difference of opinion between the officer and the motorist. The latter is influenced in his impressions by memories of many experiences in trolley cars and other vehicles, where, traveling at a much less speed than that with which he now is accused, his journeys were accompanied with noise, the rattle and bang of mechanism, loose bolts and other accompanying discordant sounds, which have become associated in his mind as almost synonomous with "speed." With these memories, which undoubtedly are not without their influence on his mentality, the motorist cannot believe that the easy riding, silent moving vehicle which he was driving could travel as fast, as is asserted by the officer, without at least a degree of discomfort to the occupants, which would compare in some measure with the recognized discomforts associated with rapidly moving vehicles of other sorts.

On the other hand, the statement of the officer contains assertions of the conditions under which the arrest was made, which, if true, prove conclusively that the arrest was justified. The policeman asserts that the car traversed a correctly measured distance within a certain number of seconds. He states that the time was noted on a watch especially designed for the purpose. If these statements are statements of fact there can be no question as to the guilt of the prisoner. True it is, that there are many known instances where the officer committed deliberate perjury. But it is equally true that the police seldom make unjustifiable arrests for exceeding the limit.

What, then, is the conclusion the layman is to form after reading the reports in the daily press of the number of motorists arrested for speeding, all, or nearly, of whom deny the accusation? Is he to conclude that all motorists are liars or that all policemen should be placed in that category? Or can he with justification, believe that each side of the controversy has stated an honest view of the matter? It is a curious condition of affairs and one which constantly is brought before the attention of the public. An explanation of the problem, based on the possible influence of "auto-suggestion," would be interesting, and the psychologist or metaphysician might discover in that way a solution which will be in refutation of the plaint of David, who said in his haste, "all men are liars."

Deodorization of the Exhaust.

Viewed in an unusual though none the less important light, the various improvements which are being wrought in the automobile tend above all to make it less offensive to the public from year to year. Improved carburation and better proportioning of the parts of the motor lead to a reduction in the noise of the machine; better gear construction has led to the elimination of the "songs" by which some of the better known makes of car used to be distinguishable even on a very dark night; improved muffler design and improved arrangements of the valve gears have served also to cut down the roar and clatter of the machines, while betterments in spring and body design have relieved the old offenses to the passengers, as well as to the man in the street. Even the nuisance of the odorous exhaust has been in part alleviated by the establishment of more perfect combustion in the motors, and the occasional elimination of over-lubrication. Actually, however, in the rationalization of the modern car, the sense of smell is about the only one of the human attributes which has been neglected.

It is very ridiculous at first thought, to consider at all seriously the possibility of removing the obnoxious qualities from the exhaust. When it is borne in mind, however, that abroad, laws are being enacted for this very purpose—since the visible fumes generally are the most disagreeable—that the smoke nuisance is one of the great est menaces to the health of great cities; and even more, that the popularity of the motor vehicle must increase in proportion to its inoffensiveness as well as its satisfactory performance, it must appear that even the purification of the exhaust, if it could be accomplished economically, would be of great value to the industry in the long run.

A method of accomplishing this by means of a simple and inexpensive scrubber has been invented in England, and is already on the market. Without opportunity to observe its working, it would appear that its use should be accompanied by no loss of power, and that the benefit derived from its use could not fail to be far and away beyond the cost of its installation. That some such arrangement, if not absolutely in that form, might be successfully devised, there is no question. As to the requirement for it, it is merely necessary to observe the improvement in silencing, and to note the high esteem in which silent running cars are held, to estimate the value to its user of such a device. In the last analysis, it is but extending the use and purpose of the muffler, which is no longer considered in the light of anything but an essential organ in the machine.

COMING EVENTS

July 3-4, Wildwood, N. J.—Motor Club of Wildwood's annual automobile carnival.

July 4, Douglas City, Ariz.—40 miles road race over city streets and country roads.

July 4, Pueblo, Col.—State Fair Association's meet at fair grounds track.

July 4, Glens Falls, N. Y.—25 miles stock car race at mile track.

July 4, Baltimore, Md.—Motor Car Racing Association's meet at Pimlico track.

July 4, Long Branch, N. J.—Elkwood Park Automobile Association's meet at Elkwood Park track.

July 4, Cape May, N. J.—Quaker City Motor Club's race meet and carnival.

July 9. Buffalo, N. Y.—Start of American Automobile Association's annual reliability touring contest for the Glidden and Hower trophies.

July 15, St. Paul. Minn.—Automobile Club of St. Paul's meet at Hamline track.

July 15, Huntington, N. Y.—Huntington Automobile Club's carnival and races.

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CARNIVAL SPORTS AT STROUDSBURG

Many Interesting Contests in Four Days' Meet—Fast Going in Hill Climbs—Gymkhana a Lively Final.

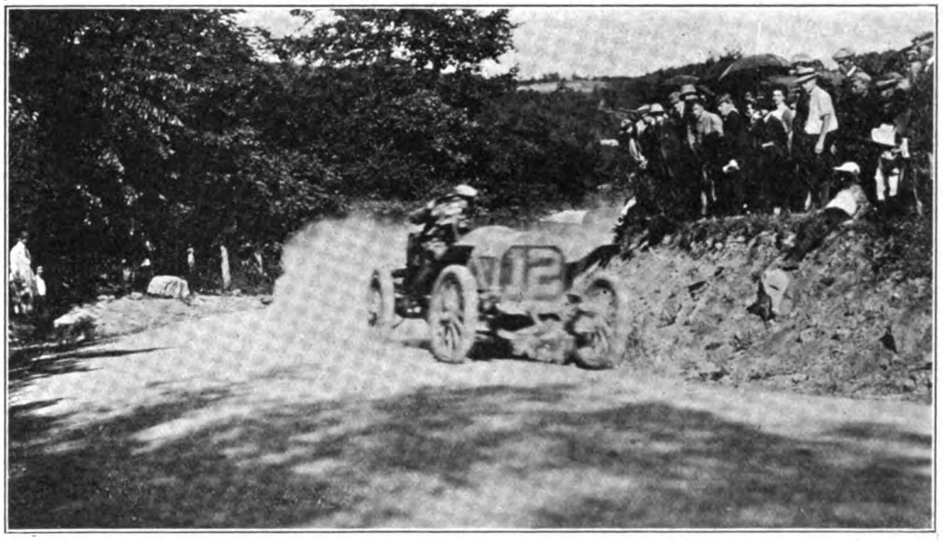
For the reason that the summer hotels are not yet even comfortably filled the four days' carnival promoted by the Monroe County Automobile Association last week in the vicinity of the Delaware Water Gap and Mount Pocono regions did not attract the big crowds that had been expected and therefore unusual enthusiasm did not develop. To be sure, fair sized crowds saw some of the events, but it was made up mostly of "natives" as the all year around residents are designated, reinforced by a sprinkling of summer boarders and waitresses.



FAR EXTENDING VIEW FROM CANANDENSIS HILL

The carnival began on Wednesday, 24th ult., with what was to have been a reliability endurance run starting simultaneously from New York City and Philadelphia, but only the latter part of the affair materialized. Quite a number of cars made the journey from Philadelphia to Stroudsburg, Pa. There were three classes to be decided from each city, these being distinguished between touring cars proper, roadsters and tourabouts and small runabouts. It was easy enough to find a winner in the latter class, inasmuch as H. McKay White, with a Ford runabout had the field all to himself. Class A, open to touring cars, presented an entirely different proposition. There were in competition Frank Yerger, Studebaker; W. F. MacGraw, Thomas; Walter M. Cram, Mitchell, Frank Hardhart, Jr., Elmore; and E. S. Shetzline, driving a car of his own design which he called the B. F. S. The 88 miles of give and take roads were covered by all except Yerger and MacGraw, with no penalties against them. The technical committee got to work to evolve a winner and the prize was awarded to the Elmore. Yerger lost his perfect score because he was held up by the police in Doylstown, and MacGraw was stopped by two fallen trees across the roadway. Class B was for roadsters and again the tied score predicament presented itself. George H. Stetson, Thomas-Detroit, and J. F. Brown, Autocar, finished with perfect scores, but the former's car survived the extra tests set by the technical committee and so was given the cup.

H. J. Kilpatrick came about as close to staring death in the face as he wants to in the hill climb up the Water Gap hill on Thursday, the 25th. Kilpatrick was the last to start in the free-for-all event and was going at the rate of a mile a minute when he struck a sharp curve half way up the steep hill. The big racing car skidded and banged into a telegraph pole, snapping it in twain. Kilpatrick was thrown out, but miraculously escaped injury, while the car was not damaged so badly but that it could be fixed up for the straightaway trials on the following day.



HARRY JONES (THOMAS) MAKING BEST TIME ON CANANDENSIS HILL

The Water Gap hill is 5,000 feet long and although there was a woeful lack of entries and spectators fast times were made by the cars that did run. There were two entries in the event for cars costing between $2,250 and $2,000, and a Rambler driven by W. F. Pierce beat J. A. Rutan's Jackson by nearly six seconds. The time of the former was 1:46⅗, and of the latter, 1:52.

H. D. Church, driving a Buick was the first car to make the ascent in the event for cars between $851 and $1,250, and he reached the summit in 2:22⅕. R. C. Rutan in a Jackson, came next and finished in 2:26⅕, but because a dog crossed his path he claimed another trial and lowered his time to 2:20. This resulted in another claim for a second trial by Church, and he made a spectacular run in 2:13⅗.

The Studebaker had practically no opposition in the class for cars selling between $2,000 and $3,000, covering the distance in 2:23⅗. The Thomas did not compete in the class for higher-priced cars and Jules Perigue, Zust, enjoyed a walkover in 2:04. In the free-for-all Perigue lowered his time to 1:57, which stood as a record for the course.

Friday, the third day of the carnival, was probably the most interesting day of all as there was a double bill—a series of mile time trials on the Pocono summit State road in the morning, and a hill climb on Canandensis hill in the afternoon for amateur drivers. There were no accidents during the time trials and only one mishap occurred while the hill climbing events were run, that being when Halstead Swan, of Brooklyn, was tumbled out of his car at a turn in the road. The course used for the hill climb is a twisting stretch of road about 1,500 feet in length, shaped something like a huge question mark standing on its head, the start being just below an S turn. The drivers had about 200 yards to get up speed before reaching the starting tape and Swan was traveling very fast as he began the

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ascent of the extremely tortuous incline.

The road turns to the left about 50 yards from the start and Swan steered his car away to the right with the apparent intention of making a sweeping curve. He went too far over, however, and when he tried to turn to the left one of the wheels collapsed and the car turned over. Swan tumbled out of the seat as the machine went over and thus escaped injury.

The hill climbing events were held on a good stretch of State road, the grade being 10½ per cent., and fast times were recorded. Rutan, driving a Jackson, won the class for cars between $851 to $1,250, by reaching the tape in 42 seconds, but a big slice was made in this time in the following event, $1,251 to $2,000, when W. H. Pierce, Rambler, was clocked in 34⅘ seconds. J. E. Smith, Jackson, was second in 38⅘ seconds. Two Stevens-Duryea cars made the running in the class for cars selling between $3,001 and $4,000 that driven by T. J. Kitson winning in 34⅘ seconds, with Albert Scott only one-fifth of a second behind. This was the closest contest of the meet and both drivers were cheered when the times were announced.

Harry Jones, driving the Thomas Briarcliff car, made two trials in the free-for-all, scoring 30 and 32 seconds. The event for members of the Monroe County Automobile Association went to W. D. Church, Buick, in 43⅘ seconds, with A. C. Haney, Maxwell, second in 47⅘ seconds.

They were not eligible as regular contestants, but Kilpatrick, with his racing Hotchkiss, and Len Zengle, Pennsylvania, were allowed to make time trials. The former scored 24, 23⅕ and 23⅘ in his three trials, while Zengle made two fast runs in 28 and 27⅘ seconds.

Zengle and Kilpatrick starred in the mile time trials, in which the contestants had to cross a railroad track, Kilpatrick making the fastest time of the day in 48⅕ seconds. Zengle was second in 58⅘. The other drivers that competed in the free-for-all and their times were Harry Jones, Thomas, 1;07⅖; James Young, Zust, 1:13; and W. H. Pierce, Rambler, 1:25. Zengle won in the piston displacement class by covering the mile stretch in 58⅘ seconds. Swan was second in 1:02, and Jones third in 1:03⅗. Young was timed in 1:11, and Carton, Stevens-Duryea, in 1:09⅕.

W. H. Pierce in his Rambler, won the class for cars between 15 and 25 horsepower, his time being 1:16⅗. W. D. Church, Buick, was second in 1:23. The event for cars between 24 and 40 horsepower went to J. E. Smith, Jackson, in 1:16⅖, with W. B. Evans, Stevens-Duryea, second in 1:27⅖. Halstead Swan made the fastest time in the event for cars from 40 to 60 horsepower when he accomplished the mile in 1:00⅗. Young in the Zust was second in 1:16.

Several amusing gymkhana events held on a dusty half mile track was the program for the final day and had not the ticket takers become so interested in the events that they forgot their duty at the gate, the promoting organization would have sold more tickets. A large crowd of spectators was on hand, but most of them came through the unguarded gates while a hundred or more found the big holes in the fences convenient. The promoters could not understand this attitude either, as they had made the admission fee only 25 cents.

Eight interesting events kept the crowd in good humor. The first was a race to cover 880 feet in one minute, or at the rate of ten miles an hour. The slowness of a car traveling at ten miles an hour did not fail to make its impression, and two of the county supervisors took particularly good notice of the speed. This event was won by J. E. Smith's Jackson in 1 minute flat.

The next event was a potato race, where the driver had to dismount, find a potato in one of six tubs, transfer it to another tub, remount and proceed around the track. This was run in three heats on account of the number of entrants in one of the heats. Two Cadillacs gave a pretty contest, being neck and neck after the transference of the harmless but necessary potato. The winner in the final heat was the Buick, driven by H. S. Church.

The potato was again the butt in the third event. This time was was speared, and H. D. Gaines in the Zust speared best. Having done these stunts forward, reverses were given a chance. The Zust retired both speedily and gracefully, and its driver received the blue ribbon. An obstacle race furnished Church in the Buick an opportunity to show as pretty an ability to turn as had ever been witnessed. Snakelike movements between eight sets of barrels were made in the quick time of 45 seconds. An umbrella race, in which a passenger had to get out, grab a paper umbrella, get in and keep the umbrella open without tearing it or turning it inside out, resulted in another victory for the Zust's driver, who seemed unusually agile.

Kilpatrick made a remarkable exhibition when he covered the half mile track in 34⅕ seconds. Considering the dusty track the performance was phenomenal, but the driver declined to attempt to better this time, claiming that the track was too dusty to take any chances upon.

A polo game in automobiles wound up the meet, and it proved amusing. The cars carried two passengers, one of whom carried a polo stick. A rubber ball was kept in motion all the while and it was amusing to see the cars run around the field trying to locate the ball. T. E. Smith, in a Jackson, was the winner, but no time was obtainable as the timer had become frightened and headed for the hotel.

Move to Untangle the Foreign Situation.

For the purpose of unraveling the tangled foreign situation resulting from a misunderstanding of the relations existing between the American Automobile Association and the Automobile Club of America, president Hotchkiss, of the former organization, this week appointed a Committee on Foreign Affairs, to represent the governing body abroad. All of the five members named are either abroad at the present time, or will be in Europe at or about the time of the Grand Prix race at Dieppe, which occurs on the 7th inst. Those named for the mission are: W. K. Vanderbilt, Jr., Jefferson De Mont Thompson, A. G. Batchelder, S. A. Miles, and Robert Graves.

The present plan is to secure representation at the Ostend, which is to occur shortly when the entire situation will be brought officially to the attention of what is known as the International Association of Recognized Automobile Clubs. Such action has been deemed advisable, owing to recent reports which indicate that leading motorists on the other side are not familiar with the actual facts of the differences between the national body and the New York City local club with the national title.

"The committee has been given large powers," remarks Secretary Elliott, in regard to the situation," and it is believed will make it clear abroad that there is and can be but one national body in the United States; that no single club can be such national body; and that the national body is the American Automobile Association with its24 State associations, its 200 clubs and its registered membership of 20,000."

Dividing Traffic on a Paris Roadway.

One method of dealing with the problem of automobiles on the road was devised a little over a year ago by M. Lépine, Prefect of the Police in Paris, and while its success in the Champs-Elysees does not argue that it would be equally successful on narrower and busier thoroughfares, that success is interesting as an evidence of what some public functionaries can do to make conditions agreeable all around. The avenue is divided into three sections and the Prefect decreed that the center section should be used entirely for automobiles, and the two sides for horse-drawn vehicles. In addition to proving a success from the traffic point of view, it has also manifested the fact that motor cars cause less damage to the road than their equine rivals.

The Car that Excels the Camel.

When the Cole Brothers' circus arrived in Battle Creek, Mich., they found a progressive press agent who evidently enlisted their admiration for his ingenuity. The aforementioned P. A. was connected with the American Motor & Cycle Co. of Battle Creek—the Franklin agents in that city—and he induced the circus folks to permit him to decorate one of their camels with a banner on which was the legend that "while the camel can go without water for eight days, the Franklin motor car can go forever without water." All of which served to attract attention to air cooled cars in general and Franklins in particular.

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FAST CLIMBING ON SKIPPACK HILL

Haupt Adds to His Laurels by Victories at Norristown Climbfest—Real Contests in all the Events.

By flying up the old historic Skippack pike, a slight incline with a rise of from 3 to 7 per cent., near Norristown, Pa., and covering 6,270 feet in 57⅗ seconds—a rate of 75 miles an hour—William Haupt of Philadelphia last Saturday, 27th ult., repeated his successes of Wilkes-Barre, Worcester and Cleveland and won the free-for-all event of the first annual hill climb of the Norristown Automobile Club, under a broiling sun and before a crowd of several thousand people.



THE STARTING POINT ON SKIPPACK HILL

Sixty-six cars entered for one of the greatest hill climbing contests ever held within a radius of 100 miles from Philadelphia, and there was a representative assortment of all kinds of cars and drivers to try for the diminutive cups that were offered in some of the events. The slight grade forming the road up the side of the hill of a valley renowned in history was in splendid condition for fast going, and with mountains in sight to the west, a peaceful pastoral scene below, with the usual property winding stream, the scene presented was very beautiful.

The arrangements were not as good as might be desired. After the officials had corralled all the competing cars into a paddock at the starting point it was discovered that the electrical timing apparatus stubbornly refused to do duty. They had to fall back on the telephone and split second watches. The crowd was too big for the State constabulary which policed the course and for a time a calling off of the events seemed inevitable. After the fourth event was run the officials waited until the guards could shoo the people into the paddock and stands before they went on with the next events.

Although Haupt's six cylinder hill climbing car made the fastest time of the day when he won the free-for-all in 57⅗ seconds there were other cars and drivers that earned laurels and whose performances commanded respect. One of these was the 48 horsepower Knox, driven by A. L. Dennison, to second place in 1:13⅗. Harry Goodin drove his Stearns in 1:16, and tied with J. W. Parkin in a car of his own construction. William Bourque in the little Knox was a close fourth in 1:16⅖.

There really were two free-for-all events. The one in which the fastest time of the day was made was for cars of any class or power and the other was for gasolene cars only, but as no steam cars appeared, both events amounted to practically the same thing. The one for gasolene cars only was also won by Haupt, but in slower time, 1:01, with William Bourque in the smaller Knox second in 1:15⅘. His team-mate, Dennison, was third, his time being 1:16.

The first machine to breast the upgrade was a Schact high-wheeled buggy driven by Applegate in the event for gasolene stock cars costing $850 and under, and naturally it attracted some attention. Applegate did not win the prize, although he reached the summit without faltering; the prize went to C. W. Mann, Buick, in 2:18. C. P. Brockway, driving an Overland won the event for cars between $850 and $1,250 by climbing the hill in 2:11. Mann was second and Stritzinger in a Mitchell third.

One of the most interesting events and one which brought out the high-powered and priced cars was that for gasolene stock cars over $4,000. William Borque, Knox, won out in 1:33, with W. J. Swain, Apperson, a close second in 1:37; George Davis in another Apperson, finished third in 1:38⅗.

Probably no driver at the meet felt more elated than Len Zengle when he won two brilliant firsts in the classes for cars from $2,001 to $3,000, and from $3,001 to $4,000. In the former event Zengle covered the distance in 1:36, and reduced this time by three seconds in the other event. Miller, in the Stoddard-Dayton, was the runnerup in both instances. The summaries:

Gasolene stock cars, $850 and under—Won by C. W. Mann, 18 Buick, time 2:18; second, J. F. Graham, 15 Ford, 2:24; third, R. S. Heebner, 15 Ford, 2:37; J. W. Lewis, 18 Buick, 2:59¼; B. Applegate, 14 Schacht, 3:41⅕.

Gasolene stock cars, $851 to $1,250—Won by Brockway, 24 Overland, 2:11; second C. W. Mann, 18 Buick, 2:16⅗; third, B. F. Stritzinger, 24 Mitchell, 2:31; Harry Greenwood, 20 Reo, 2:38⅕; H. W. Trump 22 Auburn, 2:44.

Gasolene stock cars, $1,251 to $2,000—Won by W. J. Hays, Jr., 35 Jackson, 1:53; second, Brockway, 24 Overland, 2:05⅗; third, T. W. Berger, 35 Oldsmobile, 2:15; B. F. Stritzinger, 35 Mitchell, 2:26.

Gasolene stock cars, $2,001 to $3,000—Won by Len Zengle, 50 Pennsylvania, 1:36; second, A. C. Miller, 45 Stoddard-Dayton, 1:38⅖; third, W. J. Hays, Jr., 35 Jackson, 1:41⅖; J. J. Coffey, 29 Columbia, 1:46; L. J. Block, 40 Ford, 1:54; T. M. Twining, 50 Crawford, 2:05; R. H. Morris, 30 Acme, 2:07⅕.

Gasolene stock cars, $4,001 and over—Won by William Bourque, 30 Knox, 1:33; second, C. J. Swain, 55 Apperson, 1:37; third, George Davis, 55 Apperson, 1:38⅗; J. W. Parkin, Jr., 30 Packard, 1:48.

Gasolene stock cars, $3,001 to $4,000—Won by Len Zengle, 50 Pennsylvania, 1:36; second, A. C. Miller, 45 Stoddard-Dayton, 1:38⅗; third, Alan Wood, Jr., 40 Pope-Toledo, 2:10.

Free-for-all, gasolene cars of any price, flying start—Won by William Haupt, 50 Great Chadwick Six, 1:01; second, Bourque, 30 Knox, 1:15⅘; third, Albert Dennison, 48 Knox, 1:16; A. C. Miller, 45 Stoddard-Dayton, 1:18; J. W. Parkin, Jr., 60 Parkin, 1:18⅗; H. W. Harding, 60 Matheson, 1:19⅗; Len Zengle, 50 Pennsylvania, 1:20; Harry Gooden, 60 Stearns, 1:21; T. W. Berger, 40 Oldsmobile, 1:21⅗; J. J. Coffey, 29 Columbia, 1:23; C. J. Swain, 55 Apperson; 1:25; George Davis, 55 Apperson, 1:27; A. A. Jones, 15 Ford, 1:50.

Free-for-all, cars of all prices, flying start—Won by Willie Haupt, 50 Great Chadwick Six, 0:57⅖; second, A. L. Dennison, 48 Knox, 1:13⅖; third, tied, Harry Gooden, 60 Stearns, 1:16, and J. W. Parkin, Jr., 60 Parkin, 1:16; William Bourque, 30 Knox, 1:16⅖; A. C. Miller, 45 Stoddard-Dayton, 1:17; Len Zengle, 50 Pennsylvania, 1:18⅖; H. N. Harding, 60 Matheson, 1:20; T. W. Berger, 40 Oldsmobile, 1:22⅕; George Davis, 55 Apperson, 1:23⅘; C. J. Swain, 55 Apperson, 1:24; Jones, 50 Jones Corbin, 1:52.

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ROBINSON MAKES FASTEST TIME

Driver of Stevens-Duryea Car Hero of Rockville Hill Climb—Exciting Events Thrill Enthusiastic Crowds.

P. J. Robinson, driving a Stevens-Duryea "bix six" made the fastest time at the hill climb promoted by the Automobile Club of Rockville, Conn., on Tuesday afternoon, 30th ult., which meet was the feature of the Old Home Week celebration at Vernon. Robinson's time in the open for gasolene cars was 41 seconds, at the rate of more than a mile a minute for the distance of seven-tenths of a mile, and he won the free-for-all in 43⅘. The light six car of the same make finished second in the free-for-all in 49⅕, and ran third in the open for gasolene cars in 48⅖ seconds.

The meet was well conducted and the application of a special treatment for allaying the dust worked perfectly. The militia guarded the course and did their work well, as did the police with whom they worked, and the crowd though numbering several thousands, was easily manged. Not an accident occurred to mar the meet, as there were no bad curves on the course.

MacDonald started the ball rolling when he drove his little Maxwell up the incline in 1:21. Then came the Cameron car in 1:18⅘, but the crowd got its first thrill when a little Ford runabout went up in the remarkably fast time of 1:05⅗, figures that were not touched for three classes. Louis Elmer piloted the last named.

"Barney Oldfield" Peard, so-called because he always drives with the butt of a cigar in his mouth, started the event for cars between $851 and $1,250 by running his Overland to the finish in 1.20¾. Robert Miner, Buick, followed in 1:07, which won the event. The Cameron was timed in 1:10, and the Maxwell in 1:17. The next event was also for small cars and Elmer and his Ford carried off the honors, but his time was slower than in the first event, being made in 1:08⅗. The Maxwell did it in 1:13½, and the Cameron was timed in 1:14⅗. Claude Pinney in another Maxwell finished in 1:20.

The real excitement began in the event for cars between $2,001 and $3,000, when C. D. Alton, Jr., started things by driving his Columbia in 1:04⅘. Then came W. A. Bourque in a Knox, and when he whizzed up in 50¾, the crowd "Oh'd." Harry Tuttle followed in 54⅗, and a Buick in 1:07⅖, when S. A. Miner's Knox dodged below the minute again with 57⅘. Lorimer, in the Thomas-Detroit "Bluebird" got a noisy hand when he appeared to knock Bourque's time to smithereens, but he missed the mark by one-fifth of a second. Robert Ashwell took a pleasure trip up the hill in 1:15⅕, and Charles B. Tiley, in a car of his own make, was timed in 1:06⅖. Swan's Corbin made a fast run in 53 seconds, and W. T. Plimpton covered the distance between the tapes in 58⅖; he drove a Pope-Hartford car.

From point of rivalry the most exciting event of the day was that for cars from $3,001 to $4,000, as four cars—the Knox, Thomas-Detroit, Corbin and Stevens-Duryea little six—ran neck and neck and made, respectively, the times of 50, 50⅕, 50⅖ and 50⅗. Tuttle in the Stoddard-Dayton, was timed in 54⅕, and E. J. Blake's Pope-Hartford was caught by the timers in 59 seconds.

The free-for-all opened slowly with Seymour's Thomas in 1:01⅕, and Merten's Columbia in 1:03⅖, and Bourque caused a thrill when he finished in 50 seconds. Tuttle made the run in 53⅕, and Blake's time was 59⅗. All bets were off when the Stevens-Duryea "little six" then went the distance in 49⅕, and when Robinson followed in the "big six" of the same make, the country folk went crazy with the excitement. The time was 43⅘. The Corbin closed the event in 50⅖ seconds.

It was the last event of the day—the open for gasolene cars—in which Robinson made his phenomenal run and shattered all the previous times made for the climb. Robinson went so fast that he nearly slewed off the road at one place and he slowed for a fraction of a second, but his time—41 seconds—was the best piece of work at the meet. Bourque made a desperate effort but could do no better than 44⅕, while the other Stevens-Duryea got third prize in 48⅖ seconds. Two Corbins went up in 49⅘ and 50⅕, respectively, while O'Laughlin's Pope-Hartford and another Knox did 49⅕. The two Columbias did 51⅗ and 50⅕.

Chicago Club Declines to Secede.

Another demonstration of the sincerity of the "best wishes" which the Automobile Club of America tendered the American Automobile Association on its withdrawal from the latter organization, is supplied by the intelligence of its recent attempt to induce the Chicago Automobile Club to sever its connection with the governing body and join the outlaw movement. In response to the invitation, the Chicago club passed a resolution of non-acceptance, which was published this week in the following unmistakable terms:

Resolved, That the Chicago Automobile Club respectfully declines the invitation of the Automobile Club of America to withdraw from the Illinois State Automobile Association, and thereby from the American Automobile Association and to join with the Automobile Club of America in an effort to control American motor racing.

This is a second number in the program which was opened last week by the statement published in local papers to the effect that emmissaries of the A. C. A. (of New York City) were at that time in Louisville, Ky., endeavoring to procure the secession of the automobile club of that city from A. A. A. control.

SEALED BONNET CONTEST EASY

Sixteen Perfect Scores in Delaware Association Run—Minor Mishaps Eliminate Five Contestants.

Sixteen perfect scores by the 21 contestants entered was the record made by members of the Delaware Automobile Association in their first sealed bonnet run held last Saturday, 27th inst. The run was from Wilmington to Valley Forge, Pa., and return, a distance of 79 miles on a time schedule of 5 hours 42 minutes. The five cars that failed to finish were put out of the running only through minor mishaps.

The perfect scorers in order of finish were: Albert Rothschild, Ranier; James F. Hoey, Buick; Joseph H. Shaw, Franklin; Studebaker company, Studebaker; J. R. Richardson, Mitchell; James T. Chanler, Mitchell; J. R. Richardson, Mitchell; Eugene E. DuPont, Thomas; William H. Jones, Rambler; William E. Hilland, Ford; Robert R. Glover, Maxwell; Henry McComb Banks, Stoddard-Dayton; Dr. John C. Fahey, Maxwell; William C. Corey, Mitchell; Eugene DuPont, Peerless, and Eugene Du Pont, Pierce Arrow. Dr. Howell, Mitchell, and J. W. Matthews, Garford, were disqualified for breaking the seals. The points assessed against the unsuccessful contestants were as follows:

George A. Elliott, Pierce Arrow, 2 points; Dr. H. W. Howell, Mitchell, 86; John T. Thompson, Buick, 58; J. W. Matthews, Garford, 90, and LaMont DuPont, Packard, 17.

The weather was perfect and the conditions so easy that all but three of the cars arrived at Upland on schedule time of 50 minutes. The late arrivals were Elliott, Dr. Howells and La Mont Du Pont. At the second checking station at Valley Forge, the turning point, Dr. Howells was 27 minutes late, Thompson one minute, and Matthews 30 minutes late.

The tourists carried their luncheon boxes with them and lunched at Washington's headquarters at the old camping ground.

The return to Wilmington was accomplished without incident, the last car arriving before 4 o'clock. The Wilmington club, whose chief object in promoting competitive contests of the sort is for the pleasure to be derived from them by members, intends to hold another contest at a longer distance in August.

New Jersey Club Moves to New Home.

The New Jersey Automobile and Motor Club of Newark moved from their old quarters at Broad and Chestnut streets on Tuesday, 30th ult., into a spacious new club house on the corner of Park Place and East Park street. The new quarters contain the usual fittings and arrangements necessary to the comfort and convenience of automobilists when off the road.

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SHAPING UP FOR GLIDDEN TOUR

Chairman Hower Appoints His Officials—Entrants Anticipate More of a Contest Than in Previous Years.

With the approach of the date for closing the entries for the Glidden Touring Contest, which starts from Buffalo, N. Y., on the 9th inst., the organization of that event is fast assuming tangible proportions. Although the lists will close to-morrow (Friday), the number of entries received up to Wednesday night for the tour proper, totalled only 20, while 7 runabouts had been enrolled as contestants for the Hower Trophy. The usual "eleventh hour" rush of late entries, however, is expected to swell the list to more imposing proportions.

Chairman Hower of the touring board of the American Automobile Association, this week announced the names of the following officials who are to administer the contest under the superlative rule:

Dai H. Lewis, secretary of the A. A. A. Touring Board, in charge of the confetti and pilot car; E. L. Ferguson, starter; Mortimer Reeves, checker at the finish and in charge of night controls; F. D. Stidham, chief of observers; H. D. Herr, hotel arrangements; Devid E. Hoag, M. D., official surgeon; Arthur Jervis, press representative; W. L. Conklin and W. A. Carroll, watchers.

Observers will be carried this year, and this fact, coupled with one or two features injected with the revision of the rules and the nature of the course chosen, have led to the general conviction that the forthcoming contest will be far more rigorous than those which have preceded it. This sentiment is voiced by J. E. Walker, of the H. H. Franklin Mfg. Co., in explanation of the appearance of Franklin cars in the tour this year for the first time. "The reason we never made entries in these events before," he said, "was because we felt that generally it was more of a tour than it was a contest. We believe, however, that the machine that covers the course this year with a perfect score will be put to a severe test."

Despite the recent ruling of the A. A. A. barring women from competition in its racing events, the name of Mrs. Joan Newton Cuneo is likely to figure as conspicuously as heretofore in the reports of the contest, and her name already is enrolled. The Glidden contest not being regarded in the light of a race, the sex discrimination does not apply. That it will be entirely free from the racing element which has characterized former events which have borne the same designation, however, is not assured.

The final arrangement of the course leaves a total distance of approximately 1,700 miles to be traversed during the 15 days of the contest. In tortuousness, picturesqueness and difficulty of achievement, the route, which traverses seven different States, seems likely to prove at once the most difficult from the driver's standpoint, and the most enjoyable from that of the passengers, yet proposed for an event of this nature.

Many to Attend Good Roads Convention.

With 79 miles of modern highway in actual course of construction near the city, the delegates to the National Good Roads and Legislative convention to be held under the auspices of the American Automobile Association, in Buffalo, N. Y., on the 6th, 7th and 8th, insts., will be afforded an invaluable opportunity of learning the practical side of road making, which will be of immense importance to the users of the highways throughout the entire country. This demonstration will afford highway officers, contractors and others present an unusual object lesson for the work comprises the construction of highways of brick, macadam and gravel so that a fund of information covering the entire breadth of the subject of road building will be placed at the disposal of the 2,000 delegates and visitors for whom the reception committee have made preparations.

The convention has grown to proportions hardly expected by its promoters. Indeed, it promises to be an event of unusual importance to the community at large.

Delegates have been appointed by the automobile clubs affiliated with the American Automobile Association in a chain of organizations reaching from coast to coast,and representing the following cities: Los Angeles, Cal.; Newark, N. J.; Springfield, Mass.; Elyria, Ohio; St. Louis, Mo.; Wilkinsburg, Pa.; Philadelphia, Pa.; Chicago, Ill.; Bridgeport, Conn.; Wilkes-Barre, Pa.; Malden, Mass.; Washington, D. C.

The National Committee in charge of the convention consists of Robert F. Hooper, Philadelphia, chairman; ex-Governor N. J. Batchelder, of New Hampshire; Alfred Reeves, of the A. M. C. M. A.; William R. Hotchkiss, president of the A. A. A.; Charles Thaddeus Terry; James H. MacDonald, president of the American Road Makers Association, and Frank B. Hower. Co-operating with these committees will be the national officers of the three A's.

Rheineck to Pilot the Racing White.

Announcement of the retirement of Walter C. White from the list of racing drivers is followed by the naming of Walter Rheineck as his successor in the piloting of White steam cars in all contests of speed and endurance in which hereafter they may be entered. Rheineck for some time has accompanied White in his racing contests, serving as a mechanicien, but is said to have thoroughly mastered the problems connected with driving the White in competition contests, and, in addition, he is credited with the possession of the right quality of nerve.

ONLY FIVE ESCAPE PENALIZATION

St. Louis Reliability Run a Strenuous Contest Over Rugged Roads—It Develops a Hero and "Heroette."

Two candidates for Carnegie medals or some other kind of honors evolved from the second annual owners' reliability run for the Hagerman trophy, promoted by the Automobile Club of St. Louis last Saturday, 27th ult. One was a hero and the other was a "heroette." Oddly enough the "hero" was Chief of Police E. P. Creecy, the oldest entrant in the contest, who despite all kinds of trouble, finished the run That is why they speak of the Chief as a hero in St. Louis this week. The "heroette" was Miss Ida Britton, who drove a 50 horsepower Pope-Toledo over the tortuous course of 110 miles to De Soto and back, carrying seven persons, with a loss of only two points, inflicted for premature arrival at the first control.

Twenty cars started from the headquarters of the club between 8 and 9 o'clock in the morning, and of this number all but three finished the run, but three of the finishers were later disqualified. The run was not a parlor car ride by any means. At their best the famed De Soto roads are noted for their hilliness and are not easy to negotiate even when they are in prime condition, which certainly was not the case on Saturday. The rains had washed the notorious hills out until many of them were more like rocky gullies placed laterally than parts of the highway. The drivers were all amateur owners, men who do not sell, make or drive cars for money.

The reception given by the country people and citizens of the towns along the course was most enthusiastic. The farther south the tourists went the more enthusiastic was the reception accorded them. There were large crowds waiting at Hillsboro and when De Soto was reached a crowd of about 2,000 lined the streets.

After the cars had finished they were put under a thorough test and examination by the technical committee and it was found that Walter McKittrick, Locomobile; Samuel Plant, Packard; Charles E. Bascom, White; C. M. Barnard, White, and Ralph Smith, Matheson, had received no penalties. With the exception of this quintet the nearest to a perfect score was Miss Britten, who was penalized two points for premature arrival at the first control. P. E. C. Ball was penalized for arriving late at the first control, but he has protested the decision, claiming that the distance was improperly measured. He drove a White.

T. G. Sommermeier, Kisselkar, was penalized for stopping his engine and for inspections of this car and the committee found his brake test not as good as they thought it should be. J. E. Huiscamp,

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Ford, after making a satisfactory run until within a few miles of the finish, ran out of water and "froze" his motor. George Steffens stopped a few minutes to put a fan belt on his Cadillac and that knocked him from the perfect score division. Chief Creecy, Stanley, lost his way several times and a leaky engine packing caused him to lose many points. J. C. Graham, White, withdrew after finishing and did not go through the outside tests and examination.

If Dr. W. W. Graves had not been delayed 19 minutes with an overheated engine, he and his Ford would have gotten into the honor class, as otherwise he had a perfect score and the car survived the tests of the committee. M. F. Bingham, White, was dropped from the honor brigade just because he had assistance in getting water for his car, otherwise he would have had a perfect score. W. J. Kinsella put in a claim for the leather medal for the greatest number of punctures. Kinsella patched up eighteen of them before he decided to withdraw.

W. M. Grayson, Stoddard-Dayton, did not appear for the outside tests and for this he was disqualified, while Robert Walsh , Thomas, withdrew during the final tests. Previous to this he had been penalized 25 points. Edward Walsh, Packard, was penalized for an involuntary stop. These were all the finishers.

American Entry Regains the Lead.

America once more is in the lead in the "race" from New York to Paris. The Thomas car, as announced by cable from the Times correspondent, caught the German Protos on Monday, 29th ult., just before noon and passed the Teutons before reaching Kainsk. Shuster got the American car away from Tomsk at 4 o'clock Sunday morning, being then just fifteen hours behind the Protos car. The pursuit was over roads that at first were little better than a plowed mud field, but better roads were reached by afternoon, and Shuster determined to run all night if necessary to regain the actual lead, Miller relieving him at the wheel at intervals.

The German car was sighted ahead at 10 o'clock Monday morning, with a lead of only two miles. Then ensued an exciting race, Lieutenant Koeppen crowding his car to keep ahead, while Shuster was just as determined to pass his rival. When the American machine finally was right upon the German machine, Koeppen turned aside to allow it to pass, and the lusty shouts of the triumphant Americans elicited hearty responses from their rivals. The Thomas car arrived at Omsk on Tuesday making the run from Irkutsk to that point in four days less time that was required by Prince Borghese with the Itala car in the Peking-Paris race of last year.

By a special dispatch to a London paper on the 1st inst., the Italian Zust car was reported at Chita. It still is more than 2,000 miles behind the Thomas.

ZIG-ZAG CLIMB UP DODSON HILL

Kansas City Gets Satisfying Glimpses of Exciting Contests—Brooks the Only One Winning Two Events.

If the thousand and more spectators who stood around the Dodson hill near Kansas City on Saturday, 27th inst., had been in enough balloons to hold them and anchored about a half mile above the aforementioned hill they would have seen an interesting contest—the annual hill climb of the Kansas City Automobile Club. As it was, those who attended the contest had to content themselves with as much of a view of the event as they could get either from the start or finish because the road is so crooked that at no place is more than 100 yards of the route visible from the road. However, those who saw only the starts came away satisfied, and those who saw only the finishes equally were well pleased.

There was only one hitch in the program, While the contests were going on a man with a long beard and a determined manner insisted on driving up the road in a buggy. The guards intercepted him, but he was not to be detained.

"I'm a rural mail carrier and you can't stop me," he said. "If you don't let me pass I'll have the law on the whole lot of you."

The contest was delayed several minutes while he and his decrepit nag ambled slowly up the hill.

Honors were well distributed between all the cars except the Stoddard-Dayton driven by A. O. Brooks. He won two class events and in the free-for-all made the fastest time, covering the sinuous half mile in 59⅗ seconds. Fletcher Cowherd and his Corbin cars had hard luck from early morning. While practising on the hill his car bumped into another and the former was completely disabled. Cowherd borrowed another car and went into the free-for-all. He made a fast start, but suddenly stopped—he had forgotten to turn on the gasolene. In the second attempt something got into the carburetter and Cowherd gave it up in disgust. The summaries:

Runabouts costing up to $850—Won by S. H. Easterday, Ford, 1:36; second, J. A. Hilsman, Maxwell, 1:54; third, Harry Hathaway, Maxwell, 2:19.

Runabouts costing $851 to $1,250—Won by George Gibson, Reo, 1:35⅕; second, E. L. Weiant, Buick, 1:51⅕; third, William Davis, Buick, 1:52⅕; fourth, G. M. Breed, Buick, 2:46.

Runabouts costing $1,251 to $2,000—Won by E. Nason, Stoddard-Dayton, 1;31⅕; second, W. S. Hathaway, Maxwell, 1;32⅕; third, Charles Levendoski, Maxwell, 1:39⅖.

Runabouts costing $2,001 to $3,000—Won by A. O. Brooks, Stoddard-Dayton, 1:06⅕; second, Gordon T. Gealam, Pennsylvania, 1:34⅘.

Touring cars costing up to $2,000—Won by J. C. Powellesson, Jackson, 1:29⅖; second, C. J. Corkhill, Oldsmobile, 1:34; third, Charles Levendoski, Maxwell, 1:41; fourth, J. P. Ledwidge, Great Western, 1:43⅗; fifth, Harry Hathaway, Maxwell, 2:16⅕.

Touring cars costing $2,001 to $3,000—Won by E. L. Weiant, Buick, 1:13⅕; second, Don Cole, Oldsmobile, 1:15; third, H. Holxhauer, Pope-Hartford, 1:17; fourth, Joseph Matson, Corbin, 1:17⅘; fifth, Gordon T. Beaham, Pennsylvania, 1:47.

Free-for-all—Won by A. O. Brooks, Stoddard-Dayton; second, tie between Don Cole, Aldsmobile, and R. C. Greenlease, Thomas Flyer, 1:07; fourth, L. Scott, Stanley, 1:09⅕; fifth, E. L. Weiant, Buick, 1:13⅖; sixth, O. W. Hiatt, Buick, 1:18⅕; seventh, Charles Levondoski, Maxwell, 1:30⅕; eighth, G. M. Beed, Buick, 1:30⅖; ninth, W. S. Hathaway, Maxwell, 1:33⅕; tenth, Joseph Maston, Corbin, 2:54. In the runoff for second place the Thomas won in 1:08 as against 1:11 for the Oldsmobile.

Electrics—Won by Detroit, 2:35.

Scorcher's Confession Amazes the Bench.

Herman Kilpatrick, who can drive an automobile fast enough to take one's breath away, can tell the truth about it with a readiness that rendered Judge Fleming almost breathless in the Court of Special Sessions at Jamaica, L. I., on Tuesday, 30th ult. Justices O'Keefe and Ryan shared in his astonishment.

"This man, your honors," said Motorcycle Policeman Ennis, as he presented his prisoner, "was riding sixty miles an hour in an automobile on Hillside avenue on June 3, in the afternoon about 6 o'clock."

The Justices looked over their glasses at Kilpatrick, whose home is in Manhattan. Judge Fleming lives in Jamaica and does not like swift moving motor cars.

"Do you mean actually that he drove a car sixty miles an hour through a Jamaica thoroughfare?" he gasped.

"Oh, yes, your Honor," admitted Kilpatrick, "and then some. I was going a great deal nearer ninety miles than sixty miles."

Judge Fleming sat back in his chair and fanned himself. When he had convinced himself that it was not a sunstroke, but that a driver was really admitting running at a mile and a half a minute, he inquired into the circumstances.

Kilpatrick was the driver who broke all the world's records for road racing at Jamaica June 5 and 6. It was while trying out his car two days before the races that he was arrested. He explained to the court that in all other events the course had been open for trying out between the hours of 5 and 7, morning and evening, a few days before the races, and that he has supposed the same rules applied in the Jamaica races. Judge Fleming has a strong regard for a man who dares tell the truth, and he joined in voting to impose upon Kilpatrick a fine of only $25.

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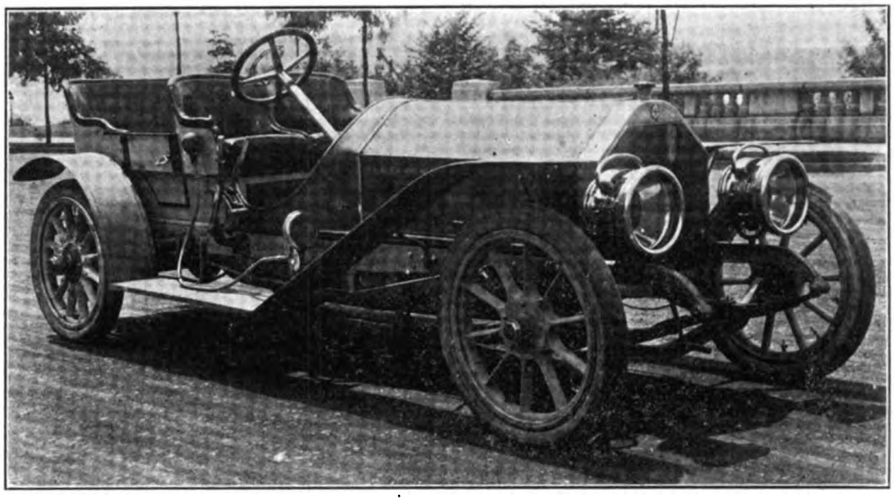
THE PALMER-SINGER "SIX-SIXTY"

New Model of Close-to-the-Ground Type Makes Its Appearance—Its Compact and Sturdy Power Plant.

If there is any truth in the notion that the speed of a car is indicated to a great extent by its appearance, then owners of the new Palmer-Singer "Six-Sixty" car never should have occasion to miss important engagements through lack of ability on the part of the car to cover ground at any speed which may be required of it in reason. The fact that its maximum speed is modestly alleged to be no less than 90 miles an hour, lends point to the conclusion.

Although announced prospectively some time since, the first of the new six-sixties has been on the road but a few days. As the accompanying picture indicates, it is of the close-to-the-ground type of fast cars, a goodly number of which are making their appearance this year. This means, that without sacrificing road clearance, the center of gravity has been brought low enough to make high rates of speed much safer than with the ordinary touring car. The sweeping fenders and low body construction, cut down wind resistance as well, while adding to the racy appearance of the machine, which is a substantial addition to the line of the Palmer & Singer Mfg. Co., New York City.

from the tank to the bearings, with pumped return from the crank case. The low lying manifold, leading from the carburetter without any appreciable length of uptake, is noteworthy, as is the arrangement of the Bosch Magneto and the wiring for the dual ignition system. As is implied by the designation of the car, the motor is rated at 60 horsepower. Its cylinder dimensions



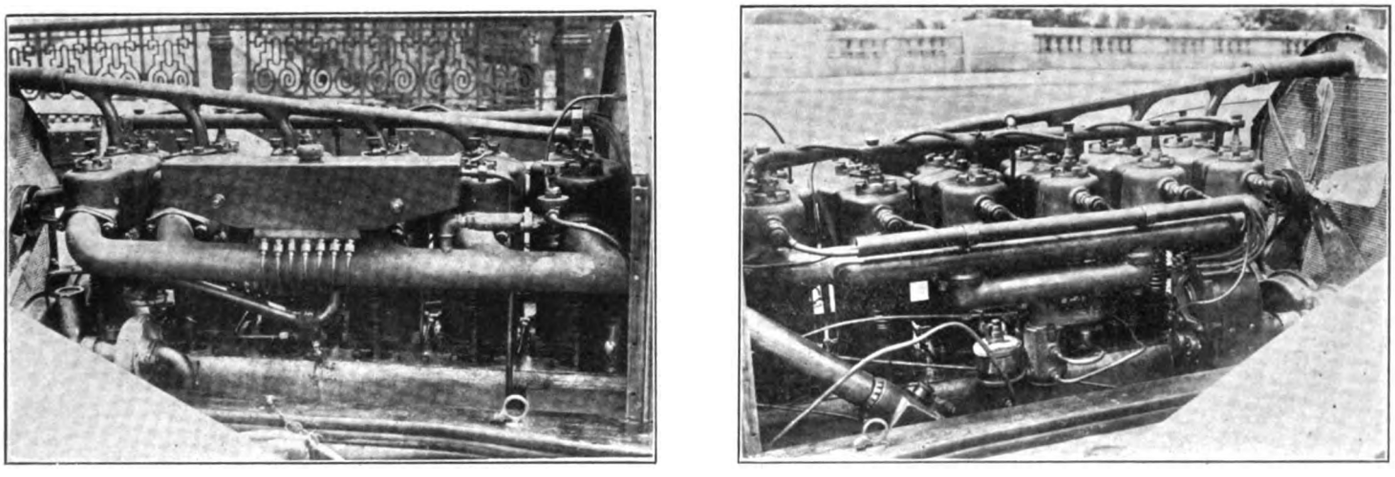
PALMER-SINGER "SIX-SIXTY"

are 4¼ inches bore and 5 inches stroke.

Transmission of the power is secured through the medium of a multiple disc clutch, four-speed, selective type, change gear, fully enclosed cardan shaft, and full floating axle. The transmission parts are

2⅛-inch spokes of specially selected stock, and shod with 4-inch tires, front and rear. The suspension is by semi-elliptical springs, the front members being 34 inches in length, and the rear ones, 52 inches. The control mechanism includes the conventional steering wheel mounted, motor regulating levers, clutch and brake pedals, and an accelerator pedal, for convenience in handling under close traffic conditions. As shown in the illustration, the steering wheel is mounted on a column, well inclined, and is elevated sufficiently to give the operator ample mastery of the car, and a low racing position.

The chassis may be obtained with some



SIX-SIXTY MOTOR, SHOWING EXHAUST AND INLET SIDES

The compact and sturdy nature of the power plant is well illustrated in the views showing it from either side. Among the points which are at once observed are the compact arrangement of the oil tank on the exhaust side of the motor, which by the way, reveals in addition only the water circulating pump and the check valve for the pressure fuel feed, which is mounted on the exhaust manifold. The lubrication system, it should be observed, is by direct feed universally mounted on ball bearings of the "F. & S." type. The brakes are all enclosed, and mounted in dust-proof cases on the rear wheels. Contrary to a custom which is pretty general, however, they are not of the expanding and contracting order, but are both expanding. Both sets are balanced by compensating levers, and they are applied by pedal and lever

The wheel base is 118 inches, and the wheels are 34 inches in diameter, built with little variety of body mounting, all in line with its purpose as a road flier. With the plain runabout body, with single rumble seat in the rear, it lists at the $2,850 mark, which, considering the amount of high-grade material involved in its manufacture, is a figure worth noting. A double rumble for the rear, may be had at an advanced price, while $3,200 is asked for the light touring equipment with "baby" tonneau, shown in the picture.

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UNIT SYSTEM OF TRANSMISSION

Beemer Explains Its Saving of Power—Results of Test Experiments and His Deduction from Them.

Whatever may be said of the success of the motor car in a general way, the fact remains that a number of problems incidental to its design remain to be solved in a manner which is wholly satisfactory to the engineer. One of these is the transmission problem. Numerous attempts have been made to produce results which combine the desired flexibility and controlability with the reliability and simplicity which are absolutely essential in a motor car. Among these the so-called unit type of transmission is being accorded a growing amount of favor.

This system, in a word, involves the combination of the change speed mechanism with the live or floating type of axle, all enclosed in a single housing, which also forms the bridge or supporting member carrying the load of vehicle weight. With this arrangement power is carried to the group through a single cardan shaft, and but two essential organs are thus required for the power plant, namely the motor and axle unit, where three or more may be required with other systems. Speaking of its advantages, in a paper read before the Society of Automobile Engineers last week, Frank Beemer remarked that there are a number of reasons why this system should and does save considerable power. The first is, as he explains:

"That it requires but one universal joint, either single or double. This is one of the points which, most engineers agree, consumes considerable power, while the driving at various angles of the propeller or cardan shaft, through two or three universal joints, is also very undesirable. The transmission applied on the rear axle allows the universal joint to be placed immediately back of the clutch and a considerable distance forward of the point where it would be placed in a car, with the transmission carried on the sub-frame, thus reducing the angularity of the propeller shaft to a minimum, and in most cases bringing it practically on a straight line with the crank shaft.

"The transmission and differential mechanism being placed in a single housing makes it very easy to have it in perfect alignment; this is one of the features that has proven from all experiments to be the principal factor in the saving of power. It is quite necessary, and has been recommended by all ball and roller-bearing authorities, that to obtain the best results from the use of any type of anti-friction bearing it is absolutely necessary, that the bearings be in perfect alignment. This question has been taken up in a very practical way, and it has been found that the unit system of power transmission permits freer action to the bearings, thus reducing the effect of abnormal shocks and vibration to the bearings.

"The tests that have been made of this system of transmitting power show a saving of from 16 to 20 per cent. of the power applied, or, in other words, it utilizes this much more power at the driving wheels, in the ordinary designs, this amount being consumed by universal joints, angularity of cardan shaft, disalignment of bearings, and many other sources of imperfection which are more easily taken care of in the transmission type of axle than in the various types of plain axles commonly used.

"The automobile buyer of to-day in most cases considers very carefully the simplicity of the car, more than its style or appearance. He is not repeating the troubles which were experienced in the early days of automobiling, when many purchasers endeavored to secure a car which, in plain language, consisted of the greatest number of pieces for the money. It is a well known fact that where the acme of simplicity lies is the maximum of durability.

"The automobile equipped with the unit system of power transmission has been taken by many reliable engineers as a parallel to the direct connected power set or unit found in the latest power plants, having the engine, which corresponds to the automobile motor, and the generator, which is the equivalent of the transmission devices. This has been found to be the most practical and economical method of producing electricity, and it is this idea, carried out, as herein described, that forms one of the most economical ways of transmitting the power of an automobile motor to the road wheels through a system based on mechanical principles. It should appeal to most engineers as being one of the best and most practical methods of obtaining the result desired.

"The saving of power, as above stated, is based principally upon hill-climbing tests which were made with several cars equipped with the unit transmission system. I have been present at a number of these tests, and have driven some of these cars, which were equipped with the transmission on the sub-frame, and have noted carefully the working of all parts of the car. I have also taken the same cars equipped with the transmission axle and in repeating the same tests have found that there is a very considerable increase in both speed and ease with which the motor will handle the car on the same hills.

"I have also made certain speed tests with a car, with all parts in good condition. The motor at its very best was unable to secure on good roads more than 40 to 45 miles per hour, while the same car equipped with the transmission axle and with all conditions as nearly alike as possible would develop, with ease, 55 miles and even as much as 60 miles per hour. These and other efficiency tests tend to prove that the unit system of power transmission is without question one of the long-looked-for improvements in automobile design.

"There are a number of arguments advanced in favor of the side chain drive for heavy cars. A car equipped with this drive, all adjustments being as correct as they were intended to be by the designing engineer, will prove efficient to a certain degree. There are, however, a number of annoyances connected with this system of propelling a vehicle that are very unpleasant; the principal one being the noise caused by the chains. It is essential, in this design, to have what is commonly called a radius rod to insure the proper distance between the centers of the sprockets. These are frequently adjusted to different distances between the centers of the sprockets. These are frequently adjusted to different distances, causing the chain to ride on the side of the sprocket, adding undue wear.

"There are a large number of cars equipped with this system that are not provided with cases to protect them from dust and dirt, which quickly cause an extreme amount of wear, as the accumulation of dirt upon these parts absorbs the oil or grease used for lubrication, and it is only a matter of a short time until the correct pitch of the sprocket and chains are destroyed, and it is at this time that the greatest inefficiency must arise. I have also noticed on a number of chain-driven cars, owing to the improper adjustments of the radius rods, that the rear axle does not set square or at right angles to the center of the car, which causes friction and undue strains upon the bearings, sprockets, chains, as well as excessive wear on the tires.

"While we have a few of these discrepancies in the bevel gear drive, it must be conceded that all the gears and other parts of the construction are properly protected from dust and dirt, and that at all times it has a sufficient amount of lubrication, which not only adds to the life of the parts, but reduces the friction, especially when working under excessive strains. Quite a large number, if not all, of these imperfections have been overcome in the unit transmission system, and the last, but not least, important feature of this system is the silence with which it transmits the power. I should say that it is physically impossible to obtain as quiet a running car with either the side chain drive or with a car equipped with the transmission on the sub-frame and using the plain type axle, as it is with the unit system as has been herein described."

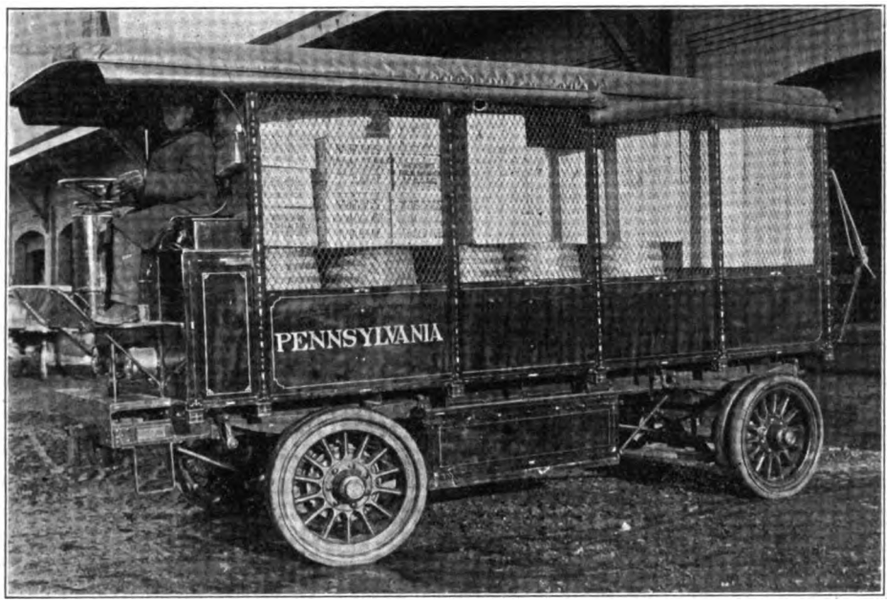
In overhauling the propeller shaft transmission, the torsion group should be carefully inspected. It is essential that the articulated and spring buffed supports for these levers be maintained in efficient and flexible condition. Should they be sprung, the resulting increased angularity of the propeller shaft joints would develop an undue amount of friction.

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AUTOMOBILES IN RAILWAY SERVICE

Pennsylvania System Trying Out Motor Trucks for Transfer Duty at Terminals —Large Saving of Time Effected.

Introduced experimentally for the purpose of expediting the handling of freight between the stations in large cities, the Pennsylvania Railroad Co. now is utilizing automobiles between the Kensington and Shackamaxon stations in Philadelphia. The railroad company intends to try the same experiment in other large terminal cities such as Pittsburg and Baltimore, and on the results obtained from the experiments at these points will depend the decision as to making this method of freight transportation a permanent adjunct of the railroad's freight system. At the present time there is but one vehicle employed in the service.



AUTOMOBILE TRUCK FOR TRANSFERRING FREIGHT

The automobile truck, which now is in use in Philadelphia, already has saved between six and twelve hours in the handling of package freight between the stations mentioned. The machine has a capacity of five tons and is driven by a six horsepower electric motor. The truck travels about 7½ trips a day carrying 2.2 tons per trip, its daily average being about 8 miles, or 132 ton miles of duty.

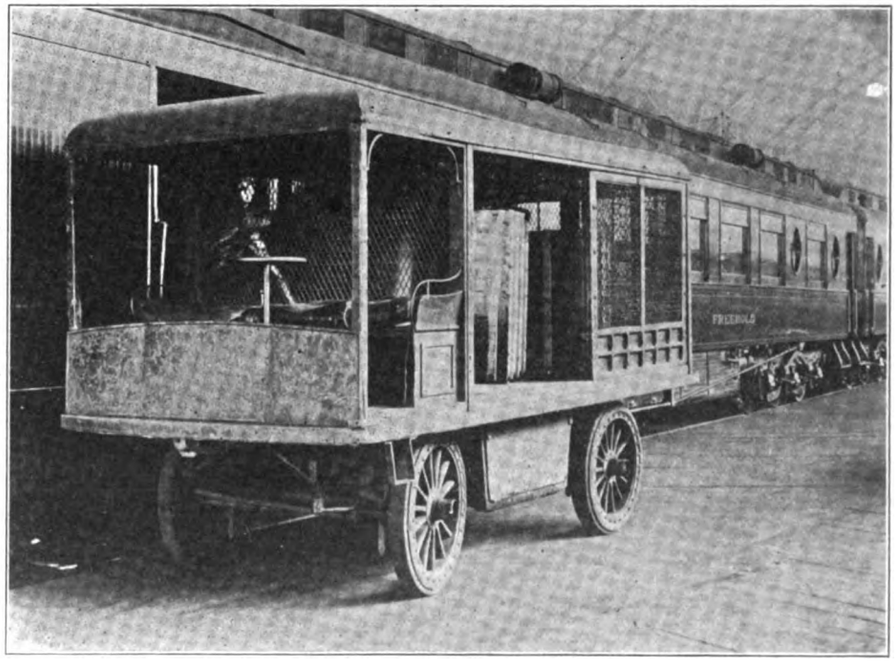
Until the automobile was introduced as a possible solution of the freight transfer problem in the Kensington district, small lots of freight were sent from station to station in cars. Already the employes of the freight department have seen that the automobile service has relieved much of the freight congestion which formerly handicapped the situation, the relief being due to the possibility of movement by a direct route instead of a circuitous one, resulting in a saving of both time and delivery and the use of freight cars.

The Pennsylvania also is bringing the automobile into use in its passenger service. In Jersey City an innovation is the introduction of large automobile trucks for use in connection with the handling of baggage. These trucks are about the size of a three-horse express wagon, having platforms of 5 by 15 feet dimensions, and are so built that when they are loaded, the floor of a truck is on a level with the floor of a baggage car. Incidentally the trunks handled in this way are saved many hard knocks during their trip, as the necessity for dropping them to the station floor or to the low platform of a hand truck and later throwing them up on to a wagon or car is obviated. In moving a trunk from the car to a truck it now receives about the same handling that it would get in being shifted about inside the same car. This simplification in handling is but one of the "trunk protective" features of the trucks. Another feature is that the trucks are enclosed with wire grating sides and leather tops, which prevent the trunks from scraping against the sides of the buildings or ferries or falling during the trip across the river. The frequent traveler is likely to appreciate the importance of the change should the automobile be adopted permanently for the handling of baggage and the process of "baggage smashing" thus be eliminated.

The service to which the new automobile trucks are being put entails their making through trips between the baggage cars and the Twenty-third street station in New York City. They are loaded to their full capacity and are raised and lowered between the ferry levels on elevators.

The electric power does away with the manual labor formerly necessary to push loaded trucks up the heavy grades at the approach to the ferries at certain conditions of the tide.

In the Broad street station, Philadelphia, smaller trucks, about the size and of much the appearance of the familiar hand trucks, are used for the transportation of baggage and mail. In these trucks the electric mechanism is placed under the body of the vehicle and is operated from the handle or "tongue." So satisfactory have these automobiles proved in the baggage and mail service, that a number of them are now being built for use in the new terminal in Washington.



AUTOMOBILE TRUCK FOR HAULING BAGGAGE

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PRACTICES THAT MENACE SPORT

Coler Discusses Unfair Competition and Erratic Decisions—Necessity for Uniform Rules Uniformly Enforced.

It always is somewhat difficult for me to speak of "sport" in connection with automobiling, because the utilitarian side of the motor vehicle appeals to me so strongly as to overshadow oft-times the uncertain and not infrequently undeserving element of sport, says Ernest Coler, in The Co-Operator, the Maxwell-Briscoe house organ, and yet it cannot be denied that contests have done a good deal for the automobile industry in calling public attention to the usefulness of what only a short time ago was called the new conveyance. Among such contests the endurance run has furnished the most eloquent proofs and permitted of the most far-reaching conclusions. Most readers will know that in nearly every endurance contest Maxwell cars have been winners. In a few instances they have been losers—good losers—when vicious roads, an unexpected skid or adverse circumstances of some kind or other have left a Maxwell car without an absolutely perfect score.

In making the automobile contest the subject of an article in The Co-Operator I desire to call attention to the somewhat unhealthy condition of the automobile contest and particularly of the endurance run, whose importance is too great to be threatened by the danger of having it turned into the semblance of a farce. In the early days of the endurance run it simply was a case of getting there; when the sealed-bonnet contest made its appearance the added difficulty only lent more zest to the strife and incidentally served as an excellent means to demonstrate to the general public the reliability of the motor car; when the successful completion of an endurance run was made contingent upon the rule that no adjustments whatever were to be made to the working mechanism, the frequency of perfect scores in such events only proved a further evidence of the automobile's value as a conveyance that was eminently fitted to be used by the average untrained operator.

The first requirement to be observed in any decent sport, and one that is generally heeded even in so innocent a pastime as the poker game, is honesty. But the participants in automobile contests frequently are actuated by anything but a desire to be obsolutely fair. Serious though this statement be, it is true and the fault lies not only with the managers of contests and their subordinates, but also with the manufacturers and dealers who enter cars. It is the custom, for instance, to place an observer on every car in an endurance or reliability run. The observer should be impartial, report every infraction of the rules, and subject the car to penalization, if deserved. But imagine a contest in which, as it happened not long ago, the distribution of observers was so skilfully and successfully juggled that a car entered by a well known manufacturer had for the official observer the best mechanic from his own factory, a man in his own pay and allegiance. What sort of a score could be expected from such a fraudulent combination, but a perfect one?

In a recent gasolene consumption contest Mr. C. W. Kelsey, who drove a Maxwell car, was approached by the official observer with the proposition to lend to him (the observer) a raincoat, in return for which favor he offered to permit the driver to take on a supply of gasolene sufficient to insure a fake victory. It is needless to say that the offer was declined with scorn. Mr. Kelsey prefers to win, and does win, "on the level," as every sportsman should make it his aim to do.

Two days after the last Vanderbilt cup race, in which Wagner and his Darracq won the much-coveted prize, it was discovered that the winning car was minus a differential and therefore had to be classed as a freak. Freak cars, according to the self-made and accepted rules of the managers of the race were barred from competition in the Vanderbilt cup event; yet the Frenchman had possession of the trophy, and so, as the best way out of the dilemma, the American managers simply reversed themselves by deciding that a car without a differential was no freak car, after all.

If you, gentle reader, were to take part in a contest of some kind, and if you were penalized one point simply because you had the misfortune to lose the stopper from the business end of your brandy flask—provided that this was your favorite tipple—would you not tap your index finger significantly against your forehead and look with fact-born suspicion upon the author of so assinine a decision?

This may be a somewhat far-fetched allusion, but it seems to serve as a striking illustration of the absurdity of the rulings and conditions under which some contests are decided. Some of these rules are of a most curious kind, little apt to be of assistance in disclosing anything except the peculiar mental state of the authors of the rules and the twisted view taken by them of things of which they themselves evidently possess no practical knowledge. If it had happened in the old bicycle days that a rider should be disbarred from the award in a century run or a road race simply because a spoke of the wheel had become unfastened, what would have happened? And now try to put yourself into the mental attitude of a so-called technical committee of a Pennsylvania motoring club, which decided that a car should be penalized for the loss of a tail pipe that was supposed to issue from the muffler, but didn't, because the car had been made without it, so that the car was in its original condition when it passed the expert gaze of these technical critics.

What is needed is a more uniform set of rules by which automobile contests are to governed. The Maxwell-Briscoe Motor Co. who no doubt have been the most prominent automobile concern in supporting the reliability contest, even to the extent of expending between $10,000 and $15,000 a year upon this most efficient form of advertising the road value of an automobile—are emphatic in their condemnation of the deplorable management of some recent competitions, one of the most flagrant examples of which occurred in Harrisburg, Pa., not so long ago, and partly inspired this article. I have no doubt whatever that the proper authorities will take this matter in hand shortly and if action should be delayed much longer it would raise the interesting question whether decisions in an endurance contest are to be governed by the approval or disapproval with which the judges view the curvature of the fenders, the style of the contestant's necktie, the cut of his shirt tail, or by a sportsmanlike consideration of performance and merit.

Ready Reference Handbook for Motorists.

To the novice in automobile matters who is desirous of learning just enough to enable him to run and look after his car without overburdening himself with technical knowledge, it is something of a cross to be forced to wade through a complete treatise on the subject, however well written it may be. Furthermore, few such books are adapted to ready reference use in time of need.

In "Care of Automobiles," which has just been issued by Doubleday, Page & Co., New York, Burt J. Paris has endeavored to bridge the gap existing between the makers' books of instruction and the full-fledged automobile educators, thus supplying the requirement of such an owner. He has succeeded in making a most readable little volume, which the publishers have produced in convenient size for the coat pocket, and printed without illustrations, in a clean style, quite in contrast to the formula and diagram bedecked pages of the conventional text book, and which, by the way, form its repellant feature to the layman. Subjects are indicated in a general way by sectional headings, and the matters treated are covered in a brief and sufficiently elementary manner to be of real value to the reader.

At the same time, not all the advice given is of first proof. Thus, the author suggests that a chain which has stretched beyond its normal length may be shortened by bending out every other pair of side plates. Those who have had experience in such matters, incline to the opinion that a chain which can be "sprung" in this fashion, will pull right back into its former condition, while the uneven pitch obtained by springing alternate plates, is distinctly bad. This, however, is an exception to matter which otherwise seems uniformly good.

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THREE NEW IGNITION SYSTEMS

Otto Heins Explains Their Essential Features—The Latest Dual Type and Its General Simplicity.

Three new types of ignition apparatus which have been introduced by the Bosch Magneto Co., within a comparatively short time, form the subject of a paper read by Otto Heins, in Detroit, at the meeting of the Society of Automobile Engineers, last week. One which is especially noteworthy comprises a low tension magneto with synchronus distributor and magnetic plug. The features and advantages of the regular low tension system are preserved, without the drawback of the external mechanism which that system requires, while its place is taken by a magnetic interrupter, which replaces the ordinary high-tension spark plug, and is hardly larger in size.

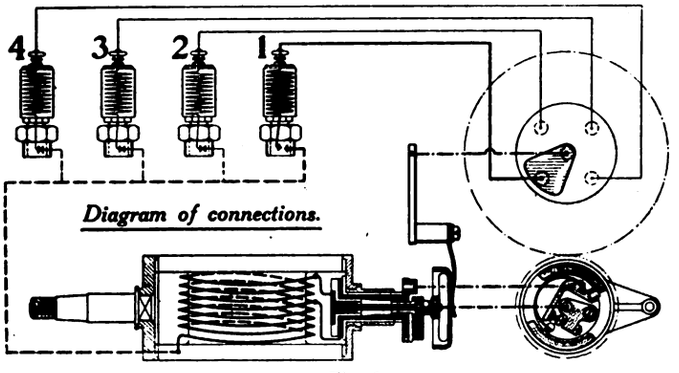


Fig. 1

"An important part of this plug is the interrupter lever," says Mr. Heins, describing the essential features of the system, "which rests on a steel knife edge, and one end of which bears on the contact piece, which is screwed into the cylinder wall in the same manner as a high tension spark plug. At the bottom of the contact piece there is an insulated, fixed stem which is magnetically divided in about the middle by means of a brass part, so that when the current passes through the coil, only the portion of the stem above the brass part can be magnetized, and as a result of this magnetization, the upper end of the interrupter lever, which directly faces the magnetized part, is attracted, the lower end simultaneously breaking contact with the contact piece, thus interrupting the current and producing a spark. In the normal position of the interrupter lever, the lower end presses against the contact piece, being kept in that position by a horseshoe-shaped spring, which passes right over the top of the stem and lies in slots in the sides thereof.

"The top of the coil is fitted wtih a contact screw to which the current from the magneto is led. This magneto generates an ordinary low-tension current and is provided with a low tension distributor distributing the current to the individual plugs, according to the number of cylinders, so that only one low-tension wire for each plug is employed."

Of the method of connection, which is illustrated in the accompanying Fig. 1, he says:

"A portion of the wiring of the armature is short-circuited by the platinum points of the interrupter, and when the circuit is interrupted, the resulting armature reaction has the effect of raising the voltage of the armature sufficiently to operate the magnetic plugs. The rotating distributor bar is adjusted in such a way that it is always in connection with one of the spark plugs at the moment when the contact breaker of the magneto interrupts the circuit, so that the circuit to the plugs is closed and they are magnetized for operation.

"The spark is advanced or retarded by rotating the timing lever, in the same manner as with a high-tension magneto, and the timing range corresponds to an angle of 50 degrees on the armature shaft. The magneto is switched off in the same manner as a high-tension magneto, by making a ground connection. This is done by small plug switches with either a single plug or with a number of plugs equal to the number of cylinders, to enable each cylinder to be switched out separately for testing purposes, from the seat while the car is in motion. As compared with mechanically-operated igniters, electro-magnetic plugs are far simpler, and they are also far more convenient, because they require no separate adjustment, as they are operated by the magneto itself."

Because of the vast amount of attention which has been paid to methods of dual ignition within the past year or two, the most recently developed product of the Bosch Magneto Co., should be of especial interest. It is a high-tension magneto, accumulator and coil combination, perfectly synchronized, and noteworthy in that the single vibrator which is used when current is being taken from the accumulators, is employed only when starting the motor. At all other times, the interruption of the primary current is accomplished by a circuit breaker on the magneto, so that the element of vibrator and coil lag is entirely done away with. The general simplicity of the layout also is a commendable feature. In reference to the system and its accessories, the authority says:

"The high-tension magneto, or the generator itself, differs from the standard rotary armature type in two respects only. In the first place, the high-tension connections are slightly altered, and, secondly, an additional contact-breaker for the battery is provided, ... so that the magneto will serve also the function of a timer for the battery, while the one high-tension distributor of the magneto is used with both the magneto and the battery current. All other details of the magneto are similar to those of the ordinary machines, and it is therefore not necessary to describe them here.

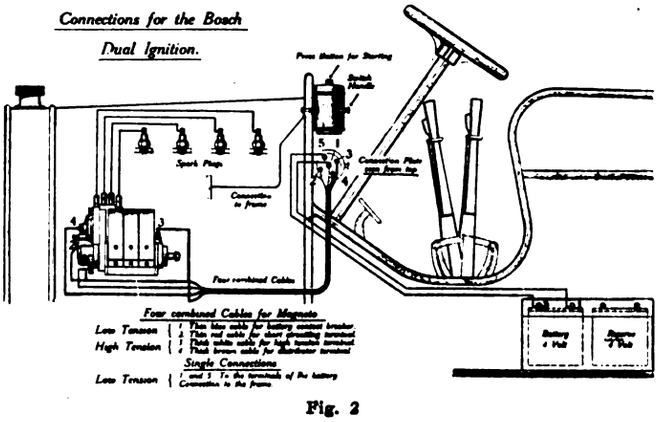


Fig. 2

"For the battery ignition a special coil is provided, with a self-contained switch and a button for bringing a magnetic vibrator into circuit when desired. These various parts are all contained in a relatively small brass case, designed to be fitted to the dashboard. . . . .

"Contrary to usual practice in vibrator coil ignition, the vibrator in this new Bosch ignition system is only brought into operation for the purpose of starting the motor from the seat. As soon as the motor is working, the vibrator is cut out and the interruption of the current is effected by mechanical means. Consequently there is no lag in the operation of the circuit interrupter, as in the ordinary vibrator coil system, thus making a synchronized system. If there is any gas in the cylinder, the motor can be started from the driver's seat by simply pressing the button. The coil is of the general form of an H armature, and not of the usual cylindrical form with concentric windings. It possesses the same amount of self-induction as the magneto armature, and while running the engine the two systems are absolutely synchronized, and no difference is apparent in the speed of the engine, whether the magneto or the battery is used.

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"The trembler is only used at the moment of starting. The button switch for bringing it into circuit is fitted in the lid of the case in such a manner as to render it quite waterproof. In order to eliminate all long connections between the switch and the coil, the switch is directly combined with the brass housing of the coil, the short contact studs being well insulated from each other in the base of the housing. The connections are made by small segments in the bottom plate of the coil frame, the entire coil being moved towards the left or the right to effect the change-over. The switch handle projects through a circular slot in the housing and locks in three positions by a spring, the positions being designated respectively, as 'Magneto,' 'Off,' and 'Battery.' The combination is very compact and can easily be inspected by unscrewing the switch handle and removing the lid, exposing the components of the switch.

"The casing or housing being watertight and made of metal, prevents the coil being affected by atmospheric conditions. No wood is used in the construction. The connections between the dashboard and magneto, as shown in Fig. 2, are made by one quadruple cable, which contains the two high-tension wires and the two low-tension wires. Standard magnetos can be adapted to this dual system by only small alterations."

As a result of the growing demand for cars of low and medium power equipped with high tension ignition, a new development of this type has been produced, which is intended for use upon motors up to 15 horsepower and of simple construction.

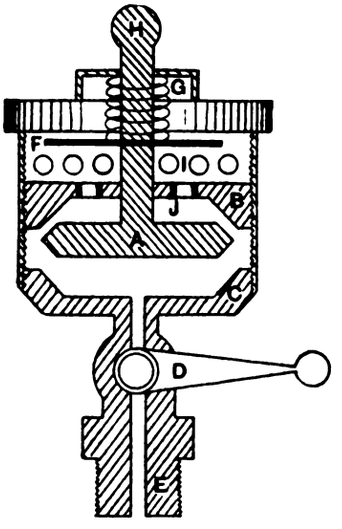
"The interrupter," says Mr. Heins, "is similar to the standard interrupter, but the distributor disc is of novel design and can be taken off with a jerk by pressing the spring on both sides. To simplify the ignition device, the magneto is generally furnished without any timing device. As these magnetos will generally be used on small cars driven by persons with no special technical skill, the absence of a timing device has the advantage that the engine cannot be abused by incorrect timing. The magneto, however, can be readily supplied with a timing device.

"On certain engines, particularly two-cycle and racing engines, an unusually large timing range is required. This necessitates the shifting of the magneto armature with respect to the driving shaft, which can be accomplished by a novel coupling device brought out by the author's firm. This coupling device can be attached to practically any type of our magnetos. It consists principally of two rotary sleeves. . . . . one fitting into the other, both provided with helical slots running in opposite directions, so that by moving the collar which carries pins which extend into the above mentioned slots, an angular movement of these sleeves relative to each other up to 60 degrees is obtainable."

AUTOMATIC COMPRESSION RELEASE

Simple Device for Relieving the Labor of Cranking—Its Action in Preventing the Dilution of Charges.

Generally speaking the automobile designer is content with providing pet-cocks in the cylinders for relieving compression in the motor when starting. In a few instances, means is provided for automatically releasing compression by a partial opening of the exhaust valves, the effect being secured by the act of engaging the starting crank itself. While occasionally provision is made for opening all of the pet cocks simultaneously by means of a special button or handle placed in the front of the radiator. That some automatic compression releasing device is possible as well as desirable, is perfectly evident.



Such a device was described recently in the Motor World as consisting of a cock of the ordinary type, except for a spring retained valve opening outward, and set to release at a predetermined pressure. The effect of this was to retain a certain amount of compression in the cylinder, and also to prevent any regurgitation through the valve as occurs with the ordinary pet cock, thus diluting the charge.

Somewhat similar in intent, but embodying one or two improvements, is a valve described in a recent issue of the Autocar, as here illustrated. Instead of a simple check valve with adjustable spring tension, this device has a double-seated valve, which is intended to close automatically whenever an explosion is secured, at the same time permitting the release of compression at any predetermined pressure when the motor is turned over by hand.

Its construction is perfectly evident. In order to put the device into operation the stop cock, D, must be opened. When this has been done and the motor is cranked slowly, the force of compression is sufficient to unseat the valve, A, from the seat, C, against the resistance of the spring, G. The spring is set ordinarily, to release at about 8 pounds per square inch. The gas at once escapes through the relief holes, I-J. The force required to turn over the motor is thus materially relieved, while a certain amount of compression is retained, and the automatic action of the valve prevents any induction of pure air from outside to dilute the charge.

When the first charge is fired, the force of the explosion at once drives the valve, A, the full length of its travel until it seats in the shoulder, B, thus practically sealing the cylinder. A very slight leak of gas is permitted during the travel of the valve, but except for this, the motor runs on practically the full force of the explosion. When the engine is running in this way, it is said that there is practically no clatter from the valves, despite their automatic action, and the power of the motor is practically unimpaired. After the cycle is taken up in the regular way, however, the cock, D, is closed, thus establishing the full performance of the motor. By lifting the knob, H, it is possible to inject fuel through the valve into the cylinder, as with the ordinary pet cock. The device thus in no way interferes with the working of the motor under ordinary circumstances, except for the very slight loss of power occasioned by the escape of a small amount of gas during the time between the unseating of the valve and its second closure of the cylinder at the end of its travel. Closing the stop cock in the base, prevents even this loss, and leaves the motor in perfectly normal condition.

To Keep Dust Out of Oil Reservoir.

As it is not always possible to obtain a strainer funnel at the time and place that the contents of the lubricating reservoir is being replenished, and as strainer funnels, even the very small ones, soon get into an oily condition which makes them undesirable to carry as part of the equipment of the car, some simple method should be employed by which the oil reservoir can be kept free of dirt or other foreign substances. A very simple arrangement to accomplish the purpose consists of nothing more than a piece of wire gauge rolled into tubular form of the diameter sufficiently small to permit of its being inserted in the filler hole of the oil reservoir. A ring should be soldered around the top of the gauze tube so that it will not enter too far into the tank. A bottom is soldered to the tube and when the completed screen once is inserted in the filled hole it remains there permanently, excepting when it becomes necessary to remove it for cleaning purposes. Such an arrangement will catch and retain pieces of waste, grit and other substances that would cause annoyance, if not indeed serious trouble should they find their way into the cylinder or come in contact with journals or wrist pins.

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4½-INCH STROKE.	WEIGHT, 2,650 POUNDS.

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Price	**$2,750.00**
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MAY ESCAPE BETWEEN LAWS

Odd Point Raised in Rhode Island Prosecution—Immunity Claimed Through Repeal of Old Statute.

Somewhat involved is the legal issue that has arisen under the new Rhode Island law in connection with the case of Forrest G. Wilcox of Providence. J. Jerome Hahn, attorney for Mr. Forrest, has brought before the Superior Court the contention that the new automobile law prevents all prosecutions of automobile cases except those brought under the new law. The action taken in the case of the State vs. Forrest G. Wilcox on appeal asks for the dismissal of the case and the quashing of the complaint and warrant on the ground that the chapter of the Public Laws under which the complaint and warrant were brought alleging violation of its provisions was repealed by the Legislature at its last session and that no law now exists under which he can be tried on the charges set forth. The contention of Attorney Hahn is as follows:

"The defendant in the above entitled cause moves that it be dismissed and the complaint and warrant therein be quashed, because he says:

"First, That chapter 1157 of the Public Laws, passed April 13, 1904, under which said complaint and warrant was brought, charging him with the violation of its provisions as set forth in said complaint and warrant, was repealed by chapter 1592 of the Public Laws passed on the 26th day of May A. D. 1908.

Second. That no law now exists under which he can be tried, convicted and sentenced on the charge made and set forth in said complaint and warrant against him.

"Third. That no provision or provisions now exists in law whereby he can be sentenced for the violation of any of the provisions of said chapter 1157 of the Public Laws.

"Fourth. That no law exists whereby he can be held on the charges contained in said complaint and warrant."

The complaint against Mr. Wilcox alleges that May 28, 1908, Forrest G. Wilcox of Providence "did ride and drive an automobile faster than a common traveling pace on one of the said streetsof said Providence, to wit, Broad street, against the statute and the peace and dignity of the State."

It is held that by legislation automobiles have been placed in a special class of vehicles and that, therefore, a complaint in such general terms as "faster than a common traveling pace" is not specific enough to hold.

Cop's Legs as a Speedometer.

That speedometers and stop watches no longer are required in timing speeding motorists—at least in New York City, is the conclusion to be drawn from the testimony of Jost Ruth, a policeman who on Sunday last arrested Michael Coogan, a chauffeur, whom he charged with driving a car faster than 20 miles an hour through the streets of the city. When Coogan's case was heard in court, Officer Ruth testified that he had not timed the defendant by any of the usual methods employed by the police, but merely had run after him. The policeman swore that he could run a block in 10 seconds flat and that he had had to run two blocks before he jumped into another automobile and captured the speeding chauffeur. He based his complaint on the rate of speed at which he had run the two blocks. Ruth's method of timing was not approved by the court, for Coogan was discharged.

New York Registration Shows Decline.

Registration figures at the office of the Secretary of State at Albany show a falling off in the number of automobiles registered in the State of New York for the first six months of the current year. Up to July 1, 1907, there were 8,225 registrations, while the figures for the first six months of 1908 show a decrease of about 200.

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Michelin tire quality proves that concentration counts, by winning every important contest in Europe and America in which they participate. Michelins get harder usage in these events than you can ever give them, and they invariably withstand it successfully.

Don't you think we know something about tires when you consider that to September last we had made 1,180,830, or tires enough to equip 26,837 automobiles, each and every year since 1895?

In spite of the fact that Michelin tires cost a trifle more than others, more than half the cars in Europe are equipped with them, because the car owners can get no other tires to give the Michelin's economy and satisfaction of service.

Isn't it about time you equipped some of YOUR cars with Michelin's to show your customers that in EVERY particular your car is the BEST in its price and class?

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ABOUT THE ROTARY PRINCIPLE

Why Its Application in Engine Design Has not Proved a Commercial Success—Its Alluring Possibilities.

Every student of the steam or gas engine has, in all likelihood, fallen victim to the lure of the rotary motor at one time or another. Usually the particular arrangement of parts which attracts his attention is presented in a novel form which appears to be so very "new" as to promise as great things for the future as its inventor is certain it holds. That the rotary engine, by which is meant the type of motor in which the usual piston and connecting rod motion is dispensed with in favor of some other mechanism, is actually by no means a novelty, is explained by Professor C. Smith in the Autocar.

"The rotary engine occupies a position unique in the history of invention," he remarks. "For over 50 years it has received the attention of inventors, and no efficient engine has yet been devised. It is remarkable that a type of apparatus which has met with so little success should continue to be the object of such care and thought. . . . . The idea of the rotary engine is to arrange the piston or part acted on by power, so that a motion of rotation is communicated directly to the shaft, without the interposition of the familiar crank and connecting rod. The ordinary steam engine mechanism is admittedly a source of considerable loss of power, but not so great as some inventors seem to think. The loss is a friction loss, which generally has its counterpart in the rotary engine; the obliquity of the connecting rod produces a variation of torque in the crankshaft, but the variation is compensated, when necessary, by a flywheel.

"The obliquity is not the principal cause of any loss peculiar to the reciprocating engine; vibration and alternating stresses are the chief objections.

"The revolving cylinder engine must not be confused with the rotary engine. For the former there appears to be some future. Considerable attention is being paid to the details of its design. . . . . The air-cooling effect on the cylinder is admirable. A result of the rotary cylinders is that there is a flywheel action due to them, hence the extra weight of a fly wheel is saved. . . . .

"The steam turbine, though certainly a 'rotary' engine, is usually considered a thing apart, and is not classed among the machines known as rotary engines. With these latter there is always a part—an abutment—corresponding to the cylinder head of an ordinary engine, and against which the steam or petrol gas expands. The piston usually consists of a vane or block of variable shape projecting radially from the periphery of a drum mounted on the engine shaft. The whole is enclosed in a casing, there being an annular space between the casing and the drum. This space corresponds with the cylinder of the ordinary engine. On pressure being admitted, the piston block or vane is forced away from the abutment, and travels round in the annular space, thereby giving a motion of rotation to the shaft. It is clear that the power can force the piston round for a complete revolution, after which the piston will be again adjacent to the abutment, only now it will be behind it instead of in front of it. The piston must therefore, be got past the abutment in order that the rotation may be continued, and this operation the inventor accomplishes in an astonishing variety of ways.

"In one type of engine the abutment is caused to slide radially outwards out of the way at the right instant by a cam or other mechanism worked from the engine shaft. As soon as the piston block has passed the abutment is brought back into place again, steam is admitted as before, and the motion is continued. . . . . In another type of rotary engine the abutment is made to rotate. It takes the form of an equal armed cross or star, mounted in such a way that the arms project successively into the annular cylinder. The piston block strikes the arm which for the time being is acting as the cylinder head, and causes the abutment to rotate about its spindle. The arm in front of the piston moves out of the way, and the next arm comes down behind the piston to act in the function as a cylinder head for the next stroke, and so on. A great number of modifications have been suggested, especially in the shape of the abutment and in the manner of its rotation. Sometimes it is rotated by cams on the shaft, and very frequently it is made to act as cut off valve in addition. . . . . There is yet another common form of engine possessing a movable abutment. This time the abutment is actually hinged at one end to the outer casing, while the other end bears upon the internal drum from which the piston block projects. As the block comes round it pushes the hinged part more or less gently out of the way.

"In all the types considered up to the present the abutment is withdrawn at the proper instant from the approximately circular cylinder, but in another very wide class the abutment is fixed, and the piston block itself is caused to get out of the way at the right instant. Evidently the piston block cannot in such cases be a fixture on the internal drum. The most obvious way of effecting its disappearance when required is to arrange for it to slide into the drum just as in the other case the abutment slid outwards. The piston vane is forced inwards by the inclined faces of the abutments or by suitable cam gear, and springs are generally set in the slot in the drum to force the vane outwards during the ordinary part of the revolution.

"These are the main types of rotary engines, though many peculiar constructions which do not come under these heads have been proposed from time to time. The so-called spherical engine, for instance, is perhaps one of the most ingenious pieces of mechanism ever devised for the development of power. Description is practically impossible without reference to models or drawings. It will suffice to say that the steam 'cylinders' usually take the shape of segments of oranges, and that a disc wobbles about in them in a wonderful manner. The motion of the disc in some forms of the engine is exactly reproduced in the motion of the middle part or cross of the coupling known as a Hook's joint.

"The idea of a rotary engine is attractive at first sight, and one can understand the enthusiasm of the inventor whose engine, according to his expectations faithfully reported by non-technical writers in the daily press, is to revolutionize the industry in some or all of its branches. But it needs only a moment's consideration of the mechanical difficulties in the way to realize why these engines have so far been commercial failures, and why they are forever likely to remain so. The wear and tear at the abutments and piston parts is enormous, and is increased by any mechanical constraint designed to remove the uncertainty of action of these parts. Rotated at low speeds, each piece of mechanism will very probably give satisfaction as a pump or blower, but in a prime mover we must have a fair speed, and little wear and tear as well as a low steam consumption. . . . . In spite of all this, the flood of invention in this direction increases year by year. The present tendency is to simplify the parts and modify the engines for working with petrol, etc., but with the steam turbine giving such satisfaction and the gas turbine looming ahead it seems a waste of ability to seek to introduce rotary engines."

How to Test the Manometer.

Whatever advantages are to be derived from the use of the manometer, or gauge for determining the rate of water circulation in the cooling system, are set at naught if the gauge fails to register accurately. This may occur when the tubing by which it is connected to the water piping leaks, or is badly kinked at some point, when the tubing is clogged, or when there is some internal flaw in the device itself. A simple test which may be employed when the correct indications for any given speeds are known, is to apply a revolution counter to the end of one of the cam shafts, running the motor at various speeds, and simultaneously observing the indications of the gauge. If the latter correspond to double the speed of the sam shafts, they are sensibly correct. If not the device should be adjusted properly, where adjustment is possible, or else a new dial made, providing it is not possible to effect the desired result by the easier method of shifting the old one.

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"DOING OVER" THE RUNNING PARTS

Practical Suggestions for the Preparation of New Surfaces—Materials and Methods for the Finish.

It is easy enough to order a much used and seedy looking car to be "done over," but as a rule the owner has small conception of the amount of labor and pains which must be involved in doing a really creditable job under the circumstances, while many a professional painter is more or less at a loss to know how to set about it to get the results which are expected in such cases. In respect to the treatment of the most difficult part of the undertaking, namely the renewal of the running gear, the Carriage Monthly furnishes some advice.

"The cracked and fissured automobile body is concededly a difficult bit of work to make really presentable short of burning off the old paint and resurfacing anew, but the ring-cracked and alligatored running parts are quite on a par with the body of like condition in the matter of downright hard work and good skill in bringing up to a satisfying finish," says this authority. "The first and most important move following the washing of the parts, cleaning off the grease, etc., is to scrape away all the fractures, uproot the splinters and knife out the gouges in which shivers of wood prick up to smite the hand of the workman. This, of course, can best be done with steel scrapers, sharpened to a keen edge on one side, with wood handles affixed. We have for this purpose often used mowing machine knives, and, in fact, they make most excellent scrapers, although somewhat tiresome to handle. In city shops, this scraping and sandpapering of the running parts is accounted a particularly nice sort of work. Usually some one unusually interested in this class of work is put in charge of it and becomes expert in it.

"At this stage, it fairly goes without saying, the whole issue of the case depends. As one of the best foremen painters of Manhattan recently said, 'Both the character and durability of the finish depend more upon this primary surfacing than upon any other single operation.' Face and back of felloes, front face of spokes, sharp edges on hubs, if any exist, face of axle bed, side bars, etc., are parts of the surface demanding particular attention. All such spaces, and, indeed, all spaces, need to be worked down until the wood fiber lays low and clean and perfectly free from any stringy substances. And of the sandpapering it need merely be said that this should be carefully and skilfully done. Everything of a loose or shelly nature should be torn away and removed under this scraping and sandpapering attack, so that at the termination of it nothing remains which can disturb or unseat this structure of pigment built upon it. Thorough scraping and sandpapering goes far towards removing the necessity of much puttying of the running parts, a fact in itself important to consider.

"The surface being fitly prepared to coat upon the next step consists of either using for a first coating some one of the many well-accredited running parts, surfacers, or straight lead compounds made up in the shop. And in respect to the shop-prepared pigments, it may be said that for impalpable fineness of atoms, softness of texture, and capacity for penetrating the crevices, and surfacing up rich and velvety under the sandpaper, and for general excellence as a supporting pigment, nothing equals white lead of approved quality. For this initial coating make it to a camel's hair brush power consistency in one part pure, raw linseed oil and three parts turpentine. Permit this coat to dry 72 hours, and then over the coarse eaty patches of surface glaze with a quick-drying putty cut to the desired consistency with turpentine, using both an ordinary putty knife and a full elastic French scraping knife. This glazing putty will dry sleek and hard, and sandpaper to powder, in 36 hours. Then with the quick-drying putty fill smoothly all cavities and gouges. After another 36 hours sandpaper the parts uniformly, without cutting through, and coat with a second application of lead made by the addition of one part oil to five parts turpentine. For a strictly high-class job, add, after again sandpapering a third coat of lead, carrying one part oil to ten parts turpentine."

What Determines the Motor's Speed.

Curiously enough, one of the most puzzling questions in connection with the operation of the gas engines, is that relating to its speed. Just why one engine should develop its best performance at a rate of revolution nearly twice as great as that required for another affording perhaps the same horsepower, is difficult to understand, even when the sequence of the cycle itself, is well known. The whole matter reverts to the original design of the motor. Just as a man with long legs, takes fewer steps and longer steps than a man with short legs, when both are of the same weight and traveling at the same speed, so two engines of different design though producing the same power output, may do so at different rates of travel. Just how the differences are brought about from which these effects are developed, is entirely a different matter. The analogy is a simple and helpful one to remember, however. In this connection it should be noted that the high speed engine is designed with extremely light working parts, perfectly balanced; and that its proper working demands a great number of relatively light impulses in order to produce its output. The slow-speed motor on the other hand, may be less accurately balanced, but requires far heavier working parts because of the relatively heavy explosion pressures with which it deals.

ADVANCED TYPE OF FIRE FIGHTER

Hollywood, Cal., Gets the Latest Ideas in Its Automobile Chemical Engine—Features of Construction.

While automobile fire engines in various forms have come into use in many cities throughout the United States, during the past year, what may be termed the most advanced type of automobile chamical fire-fighting apparatus recently has been purchased by the city of Hollywood, Cal. The vehicle is comprised of a well designed body, mounted on a special Tourist chassis. The motor is of 4 cylinders, developing 50 horsepower; selective type transmission, and two ignition systems.

The fire fighting equipment consists of a 40-gallon chemical tank of heavy copper placed crosswise on car under the driver's seat; 100 feet of ¾-inch four-ply chemical hose coupled to automatic reel with ¾-inch Larkin nozzle; two 3-gallon regulation fire extinguishers, 2½-inch hydrant connection for 2½-inch fire hose; four 9-foot ladders specially fitted to connect into one 36-foot ladder; a full complement of lanterns, crowbars, pickaxes, plaster hooks, etc.

The main body of the car is of steel, designed to carry 800 feet of 2½-inch fire hose. There are two alarm bells on the wagon. One is a large pivoted fire bell which can be operated either automatically or by a man on the footboard. The other is a 12-inch electric gong on the dash which is rung by a switch connected with the storage battery.

The lighting system consists of two large gas headlights and a central gas search light, the latter so arranged that it can be turned back, illuminating the entire outfit when car is at stand still.

The weight of the outfit, with tanks filled and including 800 feet of two and one-half inch hose, driver and five men, is 6,000 pounds. The lightest steam fire engine, weigh about 7,850 pounds and some of the heavy types, now in use weigh over 10,000 pounds. Its speed on the level is 45 to 50 miles per hour; it is geared to negotiate almost any grade.

The car will be housed at Hollywood in a specially designed building wherein the car rests upon an inclined plane facing the door. Upon alarm, the driver from the seat, releases chock block, opens the throttle and the car by descending the incline, starts the motor.

Adjusting Steering Gear for Lost Motion.

In adjusting the steering gear for lost motion, care should be observed, lest the parts be set so close as to bind. After completing adjustment, the gear should be tried through its entire "lock" to make sure that the alignment is perfect. If not, binding will occur.

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The Week's Patents.

885,886. Hydrocarbon Gas Generator. Olva D. Sumner, Chicago, Ill., assignor to Acorn Brass Manufacturing Company, Chicago, Ill. Filed May 28, 1906. Serial No. 319,160.

1. In a gas generator, the combination of a continuously ascending generator coil, a member supporting the lower end of said coil and having a liquid fuel receiving chamber provided with independent inlet and discharge valves, said discharge valve supplying fuel to said generator, a mixing chamber at a higher level than said coil and receiving the hydro-carbon vapor therefrom, a burner beneath said generator and a supply pipe connecting said mixing chamber with said burner.

885,888. Concave Vehicle Tire. Arthur G. Thomson, San Francisco, Cal. Filed Oct. 29, 1906. Serial No. 341,079.

1. A wheel tire composed of a plurality of separable independent counterpart sections, each section comprising a body having a tongue projecting from one edge thereof, and a tongue of equal length but of less thickness projecting from the opposite edge, the said tongues constituting a part of the sides of the tire with the end of one tongue at a reverse incline to the end of the other tongue.

885,894. Ignition System for Explosion Engines. Richard Varley, Englewood, N. J., assignor to The Autocoil Company, a Corporation of New Jersey. Filed Nov. 17, 1906. Serial No. 343,833.

1. In an ignition system for explosion engines, a shaft having a sleeve angularly adjustable thereon, a plurality of rollers carried by said sleeve, and metallic conductors concentric with said shaft in the path of said rollers, certain of said conductors being connected into the primary circuits of a plurality of induction coils to periodically interrupt such circuits when the engine is running and centrifugal means co-operating with the remaining conductor to permanently interrupt the circuits when the engine is at rest.

885,921. Gas Engine. Chester Griswold and Sylvester G. Averill, New York, N. Y. Filed Dec. 21, 1906. Serial No. 348,863.

1. The combination of two gas engine cylinders and, associated with each cylinder, a piston and a compressed air chamber in the cylinder base receiving said piston, a crank shaft common to both pistons passing through said compressed air chambers and having its crank in one chamber set 180 degrees distant from the crank in the other chamber, an air inlet valve in each cylinder head, ducts connecting the said air chamber associated with each cylinder with the air inlet valve of the other cylinder and means actuated by said crank shaft for operating said air inlet valves.

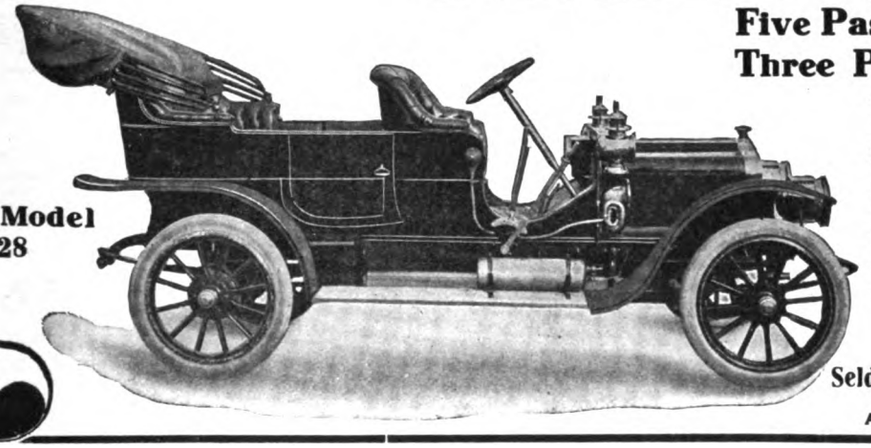
885,938. Friction Clutch. Frank Maxant. Allegheny, Pa. Filed April 25, 1907. Serial No. 370,159.

1. In a friction clutch, the combination with a driving shaft and a flanged pulley thereon, of a driven shaft provided with a circular carrying frame, pairs of levers pivotally mounted for operation in said frame and provided with gripping shoes engaging the inner and outer sides of the flange of the driving pulley, a pivotally mounted actuating lever having integral oppositely disposed arms connected by links to the terminals of said levers and provided with a backwardly extending arm having a bearing roller, and an actuating cone slidingly mounted on the driven shaft and arranged to engage said roller, substantially as set forth.

885,940. Steering Gear for Automobiles. Grove E. Miller. West Detroit, Mich. Filed May 18, 1907. Serial No. 374,361.

1. In a steering gear, the combination of a driving screw member, a driven screw member, a clutch connection between said members, nuts mounted on said screw members, a bearing block arranged between said nuts, a rock shaft connected with said block and means for compressing said block between said nuts.

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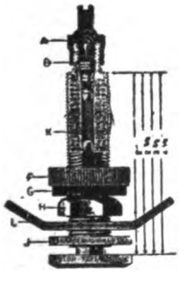
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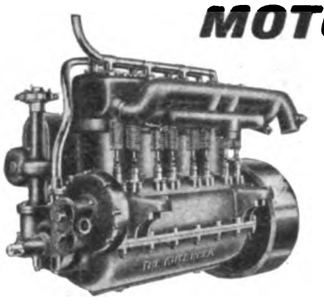
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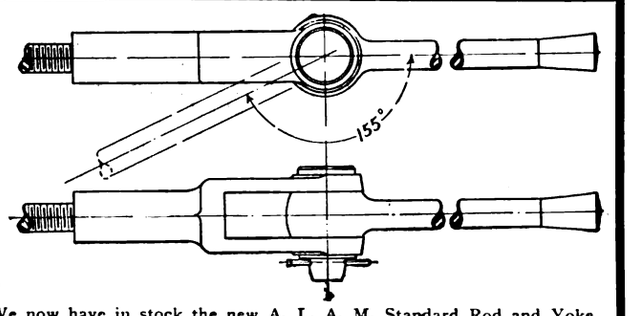
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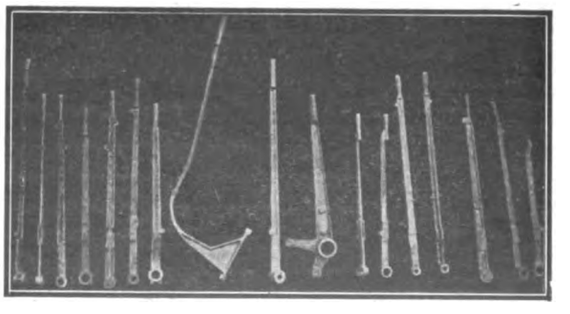
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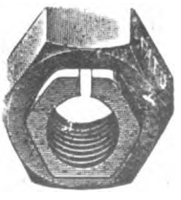
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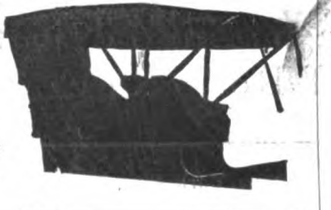
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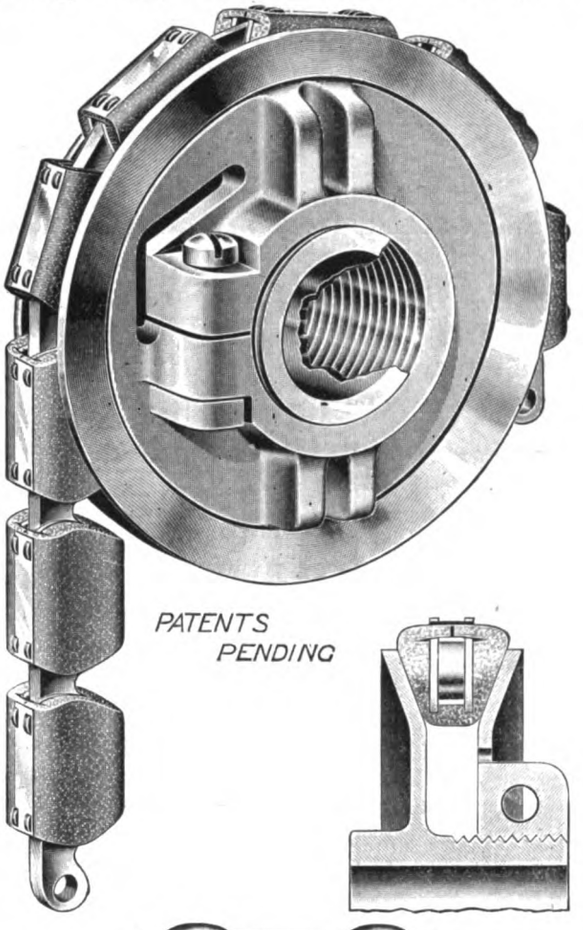
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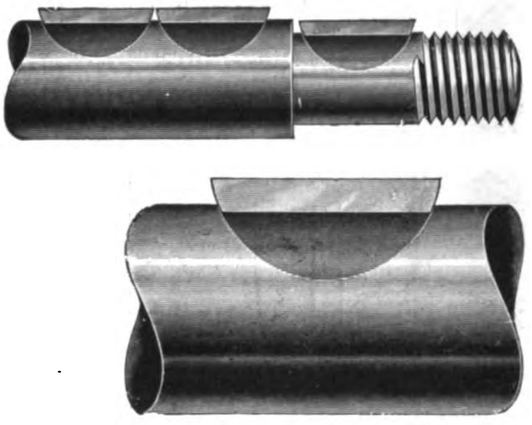
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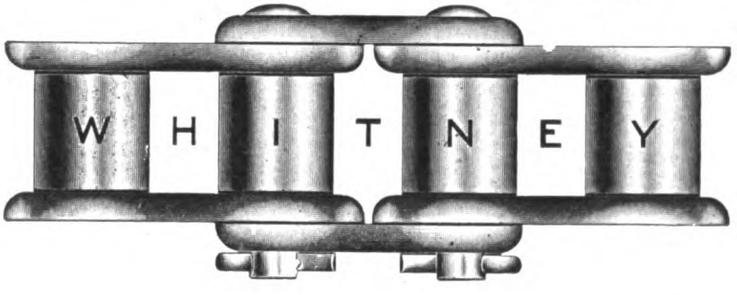




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"Whitney" Patent Cotter Detachable Roller Chains

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Gentlemen—The uniform strength of an automobile driving chain is one of the important requisites in a speed contest.

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Our experience in previous contests has taught us that a faulty chain can cause a lot of trouble.

We therefore take this opportunity to express the satisfaction which we feel at the manner in which "Whitney" Chains demonstrated their worth.

Yours very truly,

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have demonstrated time and time again that the principles employed in

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are the only correct ones that insure perfect transmission of all power to traction use, eliminating both friction load and end thrust.

A Stoddard Dayton Stock Car equipped complete with **Timken Roller Bearings** finished April 12th, a ten-day century run, 1,000 miles over the roughest roads with all adjustments sealed, something impossible for a car equipped with the ordinary type of bearings to perform. This car, as do all cars of the **Stoddard Dayton** make, carries a full equipment of **Timken Roller Bearings,** as tests made under the most adverse and severe conditions have proven them an economical factor in the saving in wear and tear from strain alone.

And these are some of the reasons why more than **65 per cent.** of all the makers of high grade American Automobiles and over **90 per cent.** of the Commercial Truck builders are now using them.

Are you? If not, won't you let us give you some figures that prove. These are yours for the asking.

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Stevens-Duryea

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This construction, which has made the name "Stevens-Duryea" synonymous with motor car efficiency, is retained. Stevens-Duryea cars were built on correct principles in the beginning, and at no time have any radical changes been made in their design.

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Every AJAX tire
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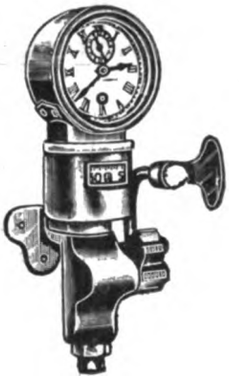
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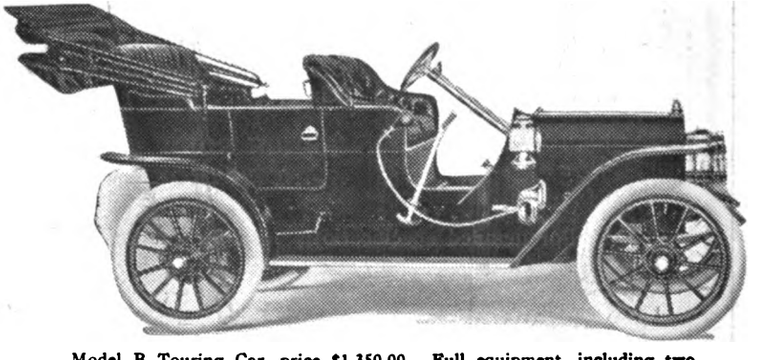
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Model B Touring Car, price $1,350.00. Full equipment, including two gas lamps, two side oil lamps, one tail lamp, generators, horn, tools, jack, pump and batteries. Top, $75.00 extra. Runabout, $1,300.

¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

¶ The live agent will find in the Oakland a car that appeals to a large and intelligent class of purchasers and that will justify the fullest confidence.

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Some of the other chains may look like THE CELEBRATED BRAMPTON CHAIN because some of the other chain makers began to copy the design and shape of the BRAMPTON CHAIN links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the BRAMPTON CHAIN than ever before. These chains somewhat resemble the BRAMPTON in appearance, but the manufacturers of such chains have been unable to copy the material—self-hardening steel.

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The price being equal, it's presumable you want the best, and full value for your money. In such cases, the BRAMPTON FILLS THE BILL, and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size—as follows:

CHAINS TO FIT AMERICAN CARS

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You can have the new car that you order fitted with the CELEBRATED BRAMPTON CHAIN if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

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We are Sole American Agents for BRAMPTON CHAINS, and they cannot be bought from anyone else except through our Agents.



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Pan-American Polish was awarded the Bronze Medal at the Louisiana Purchase Exposition at St. Louis, 1904. This polish has been carefully prepared for the Automobile trade. It is also applicable to the carriage trade, or can be used on any varnished furniture or woodwork of any kind. It will remove stains, cover scratches; leaves the automobile with its original new lustre, without being sticky or greasy. Furnished in eight-ounce bottles. Guaranteed not to harm the finest varnish. For sale by all Automobile Dealers. Price 60 cents per bottle.

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The Miller Automobile Jack is a quick acting, automatic lowering jack, designed especially for automobile use, and is adapted to the factory or garage as well as to be carried as a part of the equipment on motor cars. It is high-grade and one of the finest finished jacks on the market. We guarantee this jack for twelve months. The list price of the Miller Jack, $3.50 each.



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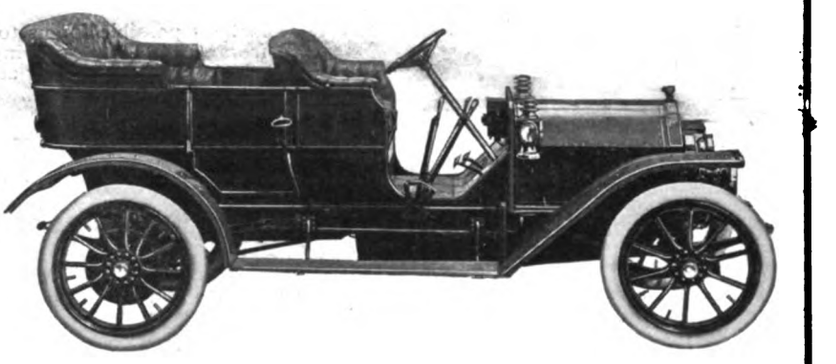
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WHAT DOES IT MEAN?

It means that which merits confidence.

¶ There are two things which may be considered the limits of the motor car's future. One is economy and the other is proof that it can be depended upon.

¶ The motor car's abilitv to cover practically indefinitely 100 miles a day for every day, is sufficient evidence of its reliability, which would be more than any reasonable requirements it would be asked to meet in ordinary use.

¶ A regular Premier stock car started out on June 1st to cover at least 100 miles a day for 100 days—MORE THAN ONE-THIRD OF THE DISTANCE HAS BEEN COVERED WITHOUT EVEN ADJUSTING THE CARBURETER.

¶ Premier performance is such as to merit the utmost confidence in the ability of the car and the further fact of its selection as the Official Pathfinder for laying out the 1908 Glidden Tour—a task probably more difficult of accomplishment than any heretofore required of a fully equipped stock touring car—is only an additional evidence of the trustworthiness inspired by this car.

Send for catalogs and Glidden Tour booklet.

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Standard Manufacturers A. M. C. M. A.



The Severest Tests

have demonstrated time and time again that the principles employed in

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are the only correct ones that insure perfect transmission of all power to traction use, eliminating both friction load and end thrust.

A Stoddard Dayton Stock Car equipped complete with **Timken Roller Bearings** finished April 12th, a ten-day century run, 1,000 miles over the roughest roads with all adjustments sealed, something impossible for a car equipped with the ordinary type of bearings to perform. This car, as do all cars of the **Stoddard Dayton** make, carries a full equipment of **Timken Roller Bearings,** as tests made under the most adverse and severe conditions have proven them an economical factor in the saving in wear and tear from strain alone.

And these are some of the reasons why more than **65 per cent.** of all the makers of high grade American Automobiles and over **90 per cent.** of the Commercial Truck builders are now using them.

Are you? If not, won't you let us give you some figures that prove. These are yours for the asking.

The Timken Roller Bearing Axle Company, Canton, Ohio

Branches: 10 East 31st Street, New York 429 Wabash Avenue, Chicago

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The automobile outlook for 1909

Every year since the inception of the automobile, public demand has drifted in certain directions and toward certain types of cars at certain prices. The tide has swelled from one extreme to the other; from the high priced car on the one hand to the "cheap" car on the other. There will continue still to be a limited demand for both. But the greatest popular demand will be for a good four cylinder car of ample size and power at about the price of the new

Cadillac "Thirty"

the four cylinder 30 H. P. large car of CADILLAC quality at $1,400.00, in which we have something which cannot possibly have any successful competition because no other factory is organized and equipped to build a car of its quality at such a price.

The dealer who handles the product of the old established, permanent and reputable manufacturer, whose name on the car is an absolute guarantee of its quality, and whose car shows itself to be so far superior in every way to every other car in the popular demand class, will be the dealer who will get the business.

There is reason to believe that the sale of automobiles during the coming year will be far greater than ever before and the dealer who is not prepared to meet the public demand with the car the public wants at the price the public is willing to pay, is sure to see a heavy balance on the undesirable side of his profit and loss account.

In addition to the "Thirty," we shall continue the world-renowned small cars, which have a place of their own to fill in the automobile world, together with other models which have made the name CADILLAC famous the world over for that which is proven to be best in automobile construction.

We have already closed contracts and accepted orders with deposits for a large portion of our 1909 product. There still remains some territory open and there is also other territory now in the hands of old dealers in which we desire to make changes. If you are a "live" dealer and want the line of cars on which you can make the most money, as well as the line which will afford the greatest satisfaction to your customers and yourself, write us.

1909 will be a CADILLAC year

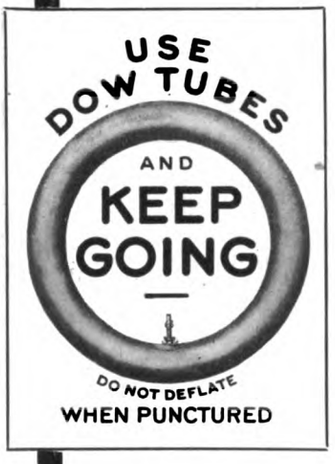
CADILLAC MOTOR CAR COMPANY, (*Members A. L. A. M.*) **Detroit, Michigan**

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METRIC SIZES	PRICE
860 x 85	$17.00
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194 Summer Street, BOSTON, MASS.

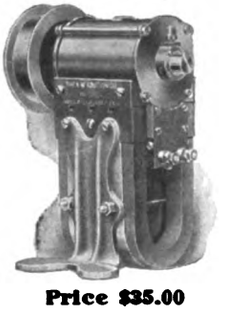
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Model F

Has bracket as shown for attaching to frame of car. Made especially

For Ford Runabouts

Good on any car.



High in Quality—Low in Cost
Perfectly Reliable—Easy to Apply
More Power—Less Fuel

Price $35.00

It starts the engine easily without batteries and runs it faster and better than any battery because it gives a hotter spark. They run in ball bearings and have no moving wires or brushes to give trouble and wear out. They are made to **last** and **they do last.** They are the **cheapest** that is **good** and there is **nothing better** at any price.

We also make high grade Coils and Plugs and the K-W Master Vibrator. Get our catalogue.

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ON AND GONE IN LESS THAN A MINUTE



Punctures and other tire troubles have no terrors for the motorist whose car is equipped with the **STEPNEY WHEEL.** If a tire goes wrong it is only the work of a moment to attach the **STEPNEY WHEEL** and be off again with no further delay.

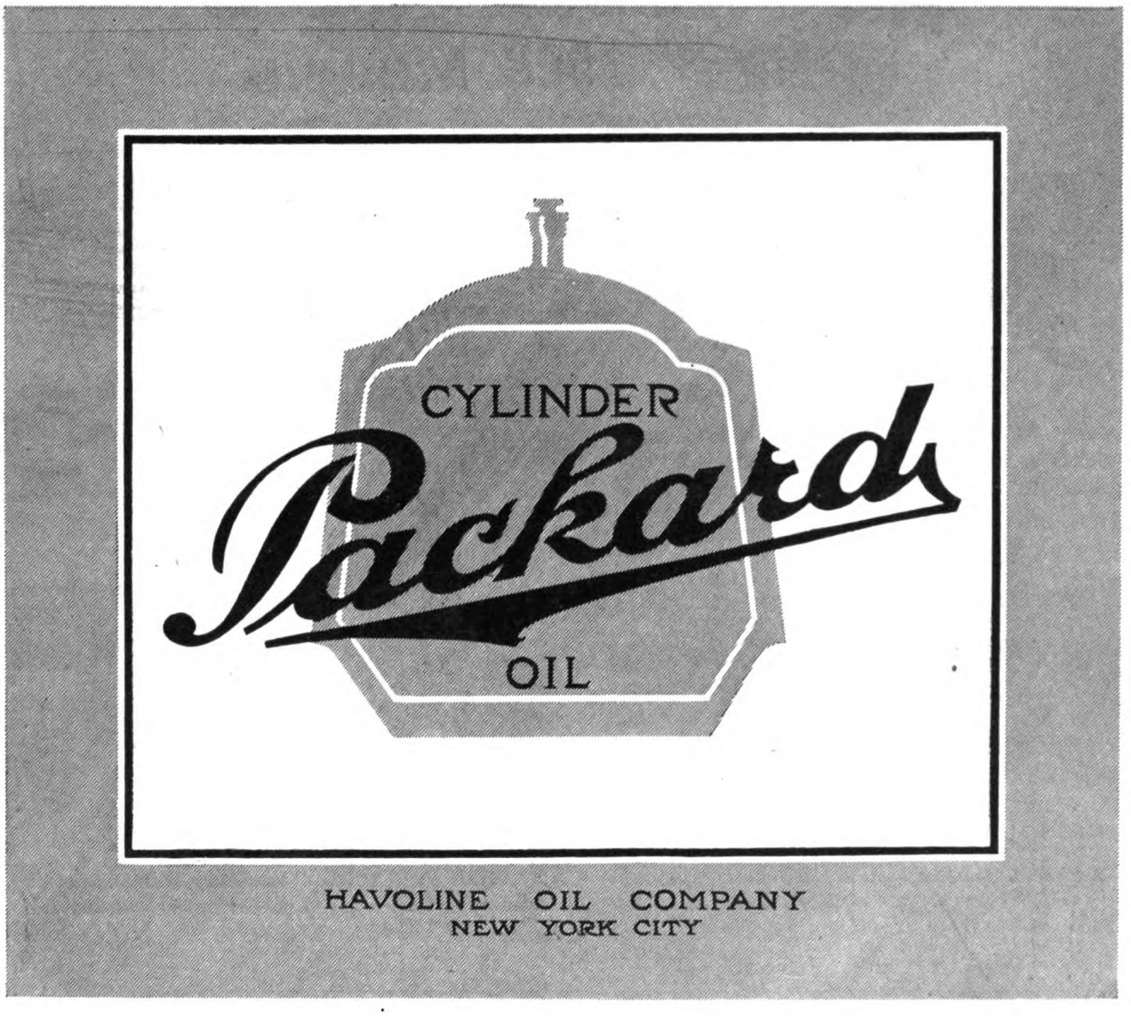
Isn't it worth having, for the peace of mind alone that it brings?

Write for Catalogue D.

Spare Motor Wheel of America, Ltd.
236 Michigan Avenue, CHICAGO, ILL.

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Special Announcement



THE ONLY GENUINE PACKARD OILS

¶The Lubricants bearing this label are the ones now used and officially endorsed by the Packard Motor Car Company. They may be obtained from all Packard dealers, or directly from us.

¶*They are the only Genuine Packard Oils.*

¶We make this announcement for the protection of the trade.

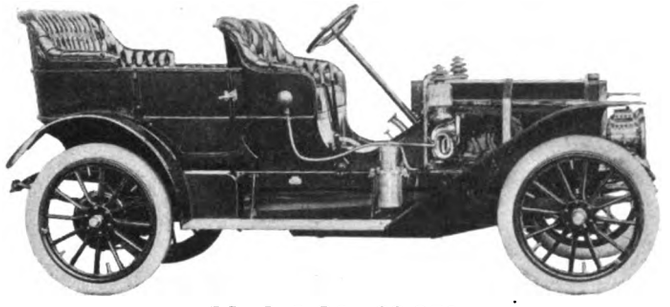
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NEW YORK CITY

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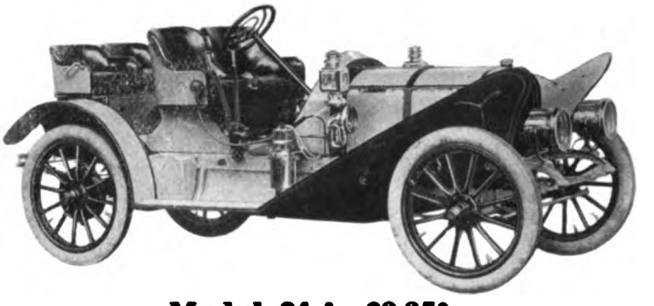
Rambler

1908 Models



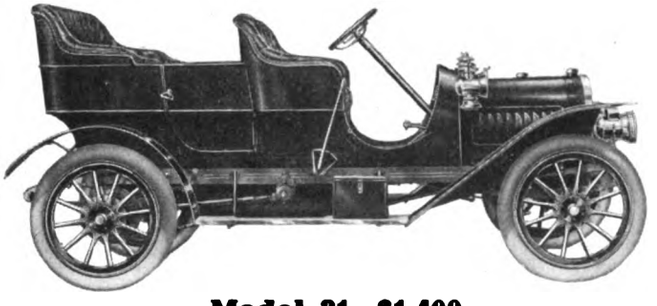
Model 34—$2,250

32 H. P. Selective type roller bearing transmission, floating type rear axle, 112" wheel base, 36" x 4" wheels and tires.



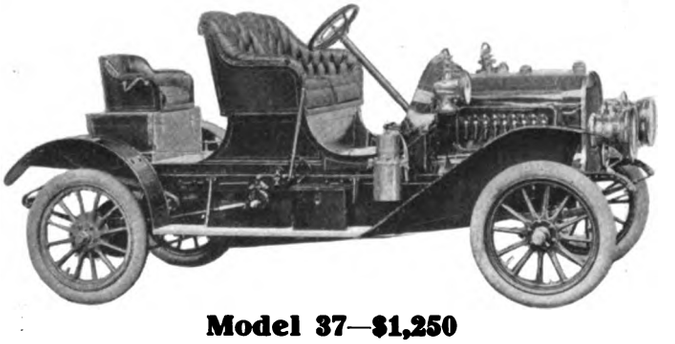
Model 34 A—$2,250

32 H. P. Selective type roller bearing transmission, floating type rear axle, 110" wheel base, 36" x 4" wheels and tires.



Model 31—$1,400

22 H. P. Enclosed planetary transmission, floating type rear axle—106" wheel base, 34" x 4" wheels and tires. Detachable tonneau. As runabout $1,300.



Model 37—$1,250

22 H. P. Enclosed planetary transmission, floating type rear axle, 102" wheel base, 30" x 3½" wheels and tires.



Model 248—$1,900

30 H. P. Sliding gear, roller bearing transmission, floating type rear axle, 108" wheel base, 34" x 4" wheels and tires. As Runabout $1,800.



Model 345—$2,500

40 H.P. Sliding gear roller bearing transmission, floating type rear axle, 112" wheel base, 34" x 4" wheels and tires.

Please write at once if you are interested in any of these Models.

THOMAS B. JEFFERY & COMPANY, Main Office and Factory. **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco
Representatives in all leading cities.

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, July 9, 1908. No. 15

POPE RECEIVERS GET FREE REIN

May Continue Manufacturing for 1909—Would Sell Columbia Steel Stock—Apperson Rumor Denied.

In spite of the so-called banking or "note brokers" interests opposing any line of action other than a closing up of the Pope Mfg. Co. affairs to a point where they would get their money as quickly as possible, the receivers on July 7 obtained from Vice-Chancellor Howell, of the New Jersey chancery court, a general order permitting them to go ahead and carry on the business at the Hartford and Westfield plants for the season of 1909, and to buy the necessary material for and to manufacture 700 automobiles and 50,000 bicycles of the 1909 pattern.

This action is regarded as being agreeable to the wishes of the majority of merchandise creditors, who want to see the business regain its feet and are willing to allow a reasonable time to that end.

The demand for an immediate settlement of claims has been placated to a large extent by the issuance of an order looking to the payment of a second dividend of 25 per cent. on all allowed claims. The order directs the receivers to apply to the Superior Court of Connecticut for the transfer to the jurisdiction of the New Jersey court of sufficient funds to pay such a dividend to the creditors. The hearing on this application will take place in Hartford on July 21.

A proposition to sell $300,0000 worth, par value, of shares in the Columbia Steel Company, which were among the assets, to Howard Cole for $135,927.75 and a cancellation of the Pope indebtedness to the Columbia Co. amounting to $54,072.25, making in effect a total of $190,000, is being entertained by the receivers. The offer is subject to the approval of the court of chancery and the receivers have petitioned the court for direction as to its acceptance or rejection, the hearing to be held in Newark on July 14. The receivers declare it the most favorable offer made them for the property and incline to accept it. The hearing will permit whatever objections may be offered.

The attorneys for Louise Unzicker, who with others of her family, is the owner of the Western Wheel Works property in Chicago on which the Pope Co. has a 17 year lease at $25,000 a year, have been endeavoring to get an order compelling the receivers to pay into the court money to cover 25 per cent. of her claim each time a 25 per cent. dividend is paid the creditors. The money has been ordered set aside, but decision is reserved as to paying it into court.

Rumors that Apperson Bros. were negotiating for the Pope-Toledo plant, at Toledo, arose from the fact that R. D. Apperson, of Virginia, asked permission to examine it with a view to purchase. Receivers Scott and Yule granted this permission, but no definite offers have been made, and the Apperson in question has no connection with the Kokomo firm.

Stepney Sues on Spare Wheels.

"Spare wheels" are the subject of a suit brought in Portland, Maine, against the Burrowes Screen Co. by the Stepney Spare Wheel companies, who allege that the defendant is infringing their patent on the Stepney spare motor wheel. The plaintiffs claim basic patent rights on this form of accessory both in Great Britain, their native heath, and in the United States, where an American company with English capital is operating under license.

Closing Auto Vehicle Affairs.

The last rites over the bankrupt Detroit Auto Vehicle Co., of Detroit, Mich., have been set by the referee in bankruptcy as taking place on July 21, at which time the estate will be officially closed provided nothing untoward arises. All the creditors have been invited to attend a meeting in Detroit on that date, when the trustee's report and final account will be passed upon and the remaining funds divided.

ABSORBS AUTOMOBILE OFFSPRING

American Locomotive Drops Berliet—Parent Concern to Make "Americanized" Cars, Trucks and Cabs.

Changes involving the death of the American Locomotive Automobile Co. as a separate and subsidiary company of the American Locomotive Co., and the dropping of the name "Berliet" in connection with the product, have been announced by Vice-President Ball of the parent concern. The three-year contract with M. Berliet, of Lyons, France, under which the French Berliet was duplicated in the American Locomotive Co.'s factory at Providence, R. I., terminated on July 1, and has not been renewed, as a more distinctly American modification in the type of touring car is contemplated for the future together with a new line of trucks and cabs.

In announcing the changes, Vice-President Ball says: "The American Locomotive Company, having acquired all of the stock of the American Locomotive Automobile Company, has for corporation reasons absorbed that subsidiary company with several others which have heretofore led separate existences. The policy therefore is not one affecting the automobile company solely. The automobile business will be continued in the works at Providence, in the garage in New York, and in the agencies in various parts of the country on a larger scale than before. Besides continuing to make touring cars, the company has in prospect a business of considerable proportions in the production of trucks and cabs.

"The American Locomotive Co. made its original contract with M. Berliet for the purpose of purchasing experience. It has now acquired all that is to be learned of foreign design and construction, its organization is perfected and its productive plant skilled in turning out the finest work. While there will be no radical changes in the gen-

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eral design of the cars with the dropping of the name Berliet, it will now be possible to make certain modifications of the French design which are desirable for American uses. It never was intended that any trucks or cabs should be built under the Berliet license. These, with the touring car, will now have the benefit of the eclectic combination of foreign and domestic practices that are now in vogue at the Providence factory.

"The personnel of the automobile department remains unchanged, Mr. James Joyce continuing as manager of the department, with R. B. Van Dyke in charge of the New York offices, Charles E. Davis as superintendent of the factory at Providence, and B. D. Gray as chief engineer."

Smith Speedometer Shows Assets.

The affairs of the R. H. Smith Mfg. Co., of Springfield, Mass., which on June 25 assigned for the benefit of its creditors, following the death of R. Hale Smith, its president, have cleared sufficiently under the work of the trustees to develop an inventory of its assets and liabilities. The total liabilities amount approximately to $60,000, while the assets are estimated to have an inventory total of $70,391.02

The items constituting the assets are set forth by the trustees as follows: 2,300 motormeter instruments in various stages of completion and parts for 700 additional instruments, $19,954.07; rubber stamp supplies. $15,960.61; machinery, tools and fixtures, $14,476.34; accounts receivable, estimated value, $17,500; Springfield Realty Trust stock, 833 shares at par value, $2,500. Of these assets, $11,500, at inventory valuation, were pledged as collateral security for bank loans, prior to January 1, 1908. None of the merchandise creditors was protected by security. The trustees, Robert A. Knight and Charles H. Beckwith, have discontinued the New York and Chicago branches for the sale of speed indicators, and the instruments now on hand will be disposed of in the regular course of business unless this department can be disposed of advantageously as an entirety. Before taking up the manufacture of speed indicators the company had long been engaged in making rubber stamps, and this branch, according to the trustees can be continued at a profit. The trustees therefore recommend that they be permitted to carry on the rubber stamp department as a means of conserving the best interests of the creditors.

Alexander Takes a Partner.

Associated with W. D. Alexander in his new jobbing enterprise in Atlanta, Ga., is George M. Seewald, for five years manager of the Atlanta branch of Morgan & Wright, covering five southern states. The new concern will be known as the Alexander-Seewald Company. Among other lines it has obtained the southern agency for Morgan & Wright tires.

The Week's Incorporations.

Dallas, Tex,—Dallas Motor Car and Transit Co., under Texas laws, with $6,000 capital. Corporators—J. A. Bergfield J. C. Hooper, J. E. Power.

St. Louis, Mo.—Eureka Motor Buggy Mfg. Co., under Missouri laws, with $50,000 capital. Corporators—John Woodburn, B. A. Wicks, Charles Zimmerman.

San Diego, Cal.—Tibbals Auto Supply Co., under California laws, with $10,000 capital. Corporators—W. L. Tibbals, San Diego, Cal.; L. H. McGowan, A. J. Scherer, Los Angeles, Cal.

Garwood, N. J.—Hicks Motor and Mfg. Co., under New Jersey laws, with $25,000 capital; manufacturing dynamos, motors, etc. Corporators—A. B. Grafy, H. E. Hicks, W. B. Elliott.

New York City, N. Y.—Fisk Rubber Co. of New York, under New York laws, with $5,000 capital. Corporators—William G. Philippean, Max Meyer, 2 Rector street, New York City, N. Y.; Alfred N. Mayo, Springfield, Mass.

New York City, N. Y.—Murray Hill Garage Co., under New York laws with $25,000 capital; manufacturing, dealing in and renting cars, carriages, wagons, boats, etc. Corporators—W. A. Mayon, S. C. Conger, J. S.Keith, New York City.

Wheeling, W. Va.—Triumph Automobile Tire Co., The, under West Virginia laws, with $1,000,000 capital. Corporators—Henry E. Keys, Charles O'Deer, W. E. Johnson, Homestead, Pa.; C. K. O'Hara, Akron, O.; K. P. Stewart, Wheeling, W. Va.

In the Retail World.

W. H. Tibbals, of San Diego, Cal., with L. H. McGowan and A. J. Scherer, of Los Angeles, has incorporated the Tibbals Auto Supply Co., to open a new supply house in San Diego.

William A. Blair has retired from the firm of H. A. Rowan, Jr., Co., owners of the Aldine Garage, 2028 Sansom street, Philadelphia. H. A. Rowan, Jr., the other member of the firm will continue the business.

The Ellis Motor Car Co., Newark, N. J., will move September 1st to a new building, 124-126 Washington street. Its present location at 222 Halsey street has been outgrown. The company handles the Pierce Arrow and Knox cars. W. H. Ellis is proprietor of the concern.

C. B. Peironnet and W. J. Dannatt, constituting the Clinton Automobile and Supply Co., of Clinton, Iowa, have taken over the business, garage and equipment of the Lamb Automobile Co. of that city. Val Bonney, manager of the business under the old name, will devote several months to rest and recreation.

Franklin After Southern Trade.

As "southern traveling representative" of the H. H. Franklin Mfg. Co., L. E. Hoffman has found the job all that the name implies, having just completed a 17,000 mile automobile business trip through the southern states after returning from a long trip in Central America and Mexico. Altogether he has been gone six months, placing agencies in southern cities and in Mexico City, Monterey, Torreone, Guadalajara, Aguas Calientes, Vera Cruz, Madeira, Yucatan, and Havana. Business conditions in the majority of the cities visited indicate a healthy and growing market for cars in districts where they have heretofore been regarded as impossible luxuries.

Morgan & Wright Make Unusual Sizes.

Tires of larger sizes through the small diameter than are ordinarily obtainable for certain size wheels are announced as among the new and unusual productions of Morgan & Wright, of Detroit, Mich. Of these a 31x4-inch Universal Dunlop tire is conspicuous since it is designed to fit perfectly a 30x3½-inch, 1908 Midgley rim. Similarly the new 33x4-inch Dunlop will fit a 32x3½-inch Midgley rim. These special sizes are recommended for use on rear wheels. The 40x4 inch regular clincher tire which is announced, has the distinction, according to its makers, of being the largest size pneumatic tire made in this country.

Ford Factory Plans Finished.

Final details of the immense new factory of the Ford Motor Co., on the old Highland Park race track property at Detroit, have been announced. The main building, which will be of reinforced concrete, steel and glass, will be 865 feet long, 75 feet wide, four stories high, and will have six acres of floor space, and in addition there will be a separate office building, a power plant and a group of saw-tooth roof outer buildings. Adequate light will be a feature of the main building, the glass in the windows totaling 52,453 square feet. The architect is Alfred Kahn, who designed the Pierce, Packard, Garford and Thomas plants.

Continental Promotes Competition.

Tire changing contests, to demonstrate the speed and facility with which its demountable rims and ready-flated tires may be handled, are being held at the various agencies of the Continental Caoutchouc Co. The first of these contests took place in Hartford, Conn., recently, at which the winner, Harold Green, did the trick in 58 seconds. This was followed by a contest in New York, at the Continental headquarters on Broadway, where the first prize was won by R. Piccoli, in 59 seconds. The third contest takes place in Boston in the near future.

Downing Goes to Studebaker.

W. S. Downing has resigned his position as sales manager of the Pope Motor Car Co., at Indianapolis, Ind., to become the Pacific Coast manager for the Studebaker Automobile Co., of South Bend, Ind. He will have his headquarters at San Francisco.

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MAY MAKES AN EXPORT DECLINE

Number of Cars Shipped Abroad Less than a Year Ago—Parts Exportations Increase—The Summary.

An increase of something over $22,100 in the valuation of automobile components exported from the United States during the month of May last, served to curtail in part the loss due to decreased shipments of cars. This decrease was from 281 in May, 1907, to 229 in the corresponding month of this year. In values, the combined total of cars and parts were, respectively, $665,450 and $459,057, last year and this.

Gains in six of the divisions recognized by the Department of Commerce and Labor at Washington, also had a steadying effect. The principal source of this movement was France, which gained approximately $1,500, while South America, "Other Europe" and Germany, also contributed in amounts ranging through four figures. As for the countries revealing depreciating markets, the United Kingdom led, with no less than $103,088 decline. British North America, Italy, and Mexico, follow in this order, with $56,000, $31,000, and $30,000, respectively and in round numbers.

For the eleven months ending with May, 2,206 cars were exported, as against 2,567 cars during the corresponding period of 1907. The valuation of parts for this period shows the usual reversal, the increase being from $548,871 in 1907 to $588,401. The totals, including the parts valuations, however, reveal a loss of $203,062. The field is evenly divided in the matter of gains and losses for the period in question. Of the improving markets, that of the United Kingdom is the most noteworthy, with a gain of $283,834, France with $143,258, and West Indies and Bermuda with $42,360, following. Mexico proves to be the greatest loser, with a $383,500 drop, while British North Americt, and "Other Europe follow in this order. The record in detail follows:

	May		Eleven Months Ending May		
	1907	1908	1906	1907	1908
Automobiles and parts of:—					
*Automobiles	$618,018	$389,487	$2,957,748	$4,221,316	$4,008,724
Parts of	47,432	69,570		548,871	558,401
Exported to—					
United Kingdom	235,751	132,663	754,286	1,219,672	1,503,506
France	85,984	100,597	225,822	444,632	587,890
Germany	16,580	21,785	79,625	119,136	126,279
Italy	37,500	6,300	245,358	243,019	237,596
Other Europe	10,879	16,381	158,630	227,797	132,998
British North America	150,079	94,066	556,009	1,020,411	809,836
Mexico	69,998	39,908	341,692	762,650	379,126
West Indies and Bermuda	15,453	6,887	237,264	199,005	241,365
South America	14,300	21,534	77,275	184,570	213,733
British East Indies	840	1,611	34,697	33,926	28,558
British Australasia	13,287	5,938	155,591	202,741	153,750
Other Asia and Oceania	14,585	10,598	49,732	91,561	123,249
Africa	140	127	28,404	8,813	7,388
Other countries	74	662	13,363	12,254	21,851
Total automobiles and parts of..	$665,450	$459,057	$2,957,748	$4,770,187	$4,567,125

* Number not stated prior to July 1, 1906.

Imports Falling Off Rapidly.

During the month of May the total imports of foreign cars by the United States fell away nearly to the amount of $200,000. The exact figures for the month in 1907 and 1908, respectively, were 105 cars, value $333,657; and 72 cars, value $170,185. Component parts were imported to the value of $75,768 in 1907, and $42,515 this year. France and Italy were the countries most seriously affected. France, in May 1907, exported to the United States 76 cars, value $242,020. This year but 52 cars, value $122,952 were sent here; a decrease of nearly 50 per cent. Italy, in May, 1907, sent 16 cars, valued at $48,427, and in May, 1908, 15 cars, valued at $34,939. For the 11 months ending with May, the total figures are respectively, 1,113 cars, value $3,839,045, and 974 cars, value $2,346,613.

Hartford Rubber Running Nights.

Chafing under a delay of two days, made necessary by the taking of inventory last week, the Hartford Rubber Works Co. has taken steps to quickly regain lost working time, as night shifts were resumed on Monday and will be continued indefinitely, or until the catching up on orders is in sight.

Particularly gratifying to the company is the reception accorded the Hartford clincher tire, the sales of which have doubled and half doubled again this year.

Selden Parts with Palmer & Singer.

The Selden Motor Vehicle Co., of Rochester, N. Y., has discontinued its New York agency with the Palmer & Singer Manufacturing Co., and for the present the agency wil rest with E. T. Birdsall, the company's engineer. The latter has headquarters at 41 West Sixty-third street.

Overland Enlarging for Next Year.

The Overland Automobile Co., of Indianapolis, Ind., is at work on a large addition to its factory in preparation for the 1909 season. Manager John Willys is buying materials for a greatly increased production.

TIRES NOT MOTOR CAR PARTS

Entitled to a Lower Import Duty Even When Shipped with Machines—Importers Win in Court.

The long fought question as to whether tires imported with new machines are dutiable as rubber goods at 30 per cent., or as parts of an automobile and therefore subject to the 45 per cent. duty as being made principally of metal, upon being taken to the United States circuit court for the Southern district of New York, has been decided in favor of the automobile importers and adversely to the government.

The Auto Import Co., Archer & Co., and Massenat Deroche were the complainants against the action of the collector of customs at the port of New York in assessing duty on the tires that came with their imported motor cars at the rate which obtains for automobiles themselves, instead of at the lower duty. On the first appeal from the decision of the collector, the importers lost and the Board of United States General Appraisers upheld the collector's action, but the case was carried up with a different result, although the government has now in turn given notice of appeal to the circuit court of appeals.

The brief of the decision explains that "Automobiles were imported with tires accompanying them; but the tires had not, prior to importation been attached in such a way as to be capable of immediate use, and they were interchangeable and might or might not be used on the machines with which they were imported. The court held that the tires and the machines did not together constitute an entirety, but were dutiable as though imported independently.

"In order that merchandise that is distinctly a manufacture of one material, as a rubber automobile tire, shall be classified as a manufacture of another material, as an automobile in chief value of metal, it is necessary that the entire article manufactured should have existed as an assembled entity, so that it would be an invasion for the foreign maker to break the entity into fragments and expect each fragment to be treated as if complete in itself. But where an article has never been assembled abroad, it ought not for tariff purposes to be treated as if it had been so assembled."

District Judge Platt, in giving the decision, said in part: "In the cases at bar there is no evidence that the rubber tires in issue had been attached to the wheels of the automobiles in the country of production in such a way as to be capable of immediate use. It is to be observed that the tires are not so markedly a part of the automobile as the nuts, bolts, beams, angle iron, etc., because these latter things are individual to the particular make of machine and are intended to stay until worn out."

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WHITE WINS

A Partial Summary of Victories, May, 1907-May, 1908

Perfect Score in Harrisburg Endurance Run

Tieing with three other cars in the contest of May 5th-6th, 1907. For the result of the "run-off," see below.

Fastest Time in Wilkes-Barre Hill-Climb

Defeating 45 high-powered gasolene cars, in the great contest on Decoration Day, 1907.

Fastest Time in Cleveland Hill-Climb

Defeating 40 high-powered gasoline cars.

Fastest Time in California Hill-Climb

Defeating the fastest of its gasoline competitors by nearly two minutes on the 2⅞ mile hill at Witter.

Perfect Scores in Sealed Bonnet Contest

Both White cars entered made perfect scores in this contest conducted by the Automobile Club of America.

Officially Observed Non-stop Run of 1871 Miles

Held under the auspices of the Royal Automobile Club of England and certified by that organization.

Fastest Time of the Season on the Track

One mile in 1:02, ten miles in 12:54, and twenty-five miles in 29:07 at the Santa Rosa Track Meet.

Officially Declared Most Efficient Car

In the South Harting hill-climb, conducted by the Royal Automobile Club, the White won the contest because it developed at the rear wheels a greater percentage of its assigned horsepower than did any other car. The rating assigned to the White was 50 horsepower.

Wins English Dust Trials

Proving officially that it raises less dust than any other car.

Clean Sweep in the Glidden Tour

Three White entries make three perfect scores.

Won Hower Trophy

The single White runabout entered in the Glidden Tour defeated a dozen high-priced gasoline runabouts competing for this prize.

Won California Reliability Contest

In the original contest held September 20th, two Whites tied with two gasoline cars. In the "run-off" held November 15th and 16th, both Whites made perfect scores, while both gasoline cars were penalized.

Won Quaker City Endurance Run

In this contest, held January 1st, 2d and 5th, the White vanquished 27 gasoline cars of 23 leading makes, winning the MacDonald & Campbell trophy.

Fastest Time in San Francisco Hill-Climb

Winning the free-for-all, the $2,500 class and the $3,500 class.

Fastest Time in the New York Carnival Hill-Climb

Making the ascent of Fort George hill in 32⅕ seconds, compared with the best gasoline time of 36 seconds; largest entry list of any hill-climb ever held.

New San Francisco-Los Angeles Record

The White car made the 478-mile mountainous journey in 17 hours and 17 minutes, cutting 56 minutes from the previous figures.

Double Victory in Harrisburg Endurance Run

The single White entry was the only touring car to make a perfect score, winning the principal 1908 trophy, the Board of Trade Cup, and also the 1907 prize in a "run-off" with last year's other perfect-score drivers.

Perfect Score in Endurance Runs at Boston, Detroit, Baltimore, Kansas City, Indianapolis and Atlanta

WRITE FOR LITERATURE

THE WHITE COMPANY, Cleveland, Ohio

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NEW YORK, JULY 9, 1908.

Strength of the Good Roads Movement.

What evidence was lacking to the popular mind hitherto of the strength which the good roads movement has attained is now afforded by the magnitude of the convention which was held in Buffalo, N. Y., this week. The cause of good roads has progressed practically without cessation since it obtained its first impetus at the hands of the bicycle industry some years ago. With the growth of the automobile movement the demand for improved highway conditions, which had been permitted to lapse to a certain extent, has been renewed with tremendous vigor. The contention which sometimes is made, that automobiles tend to injure the highways is a circumstantial and somewhat fortunate incident to the case, for, partly in self defense and largely because of the advantages to be obtained by the motorists, the automobile interests have been largely responsible for the present good roads agitation from which great benefits to all users of the highways are to result.

That two thousand or more delegates from all parts of the country are taking an active part in the present assemblage, that they are composed, not alone of the motorists but also of representatives of the American Road Makers' Association and the National Grange, is of tremendous advertising value to the cause. What the convention accomplishes in a definite and technical way may be considered from the present standpoint as hardly more important than this feature. The public arousal which may be brought by focussing general attention upon any subject is certain to carry in its wake results of the practical sort, such as the engineers and other experts at the Buffalo meeting are paving the way to accomplish. What this meeting may do for the United States and for America, the International Congress, to be held in Paris next October, on an even more ambitious scale, will do for the world at large.

The good roads movement is one of the biggest and most pregnant movements of which it is possible to conceive. Its problems change rapidly with the years and require a constant change of method to cope with them. In order to face these new conditions properly representatives of not one or two, but all interests which touch the highway in any sense, must be allied and to that alliance must be added that popular support which is merited by and accorded only to questions of truly world-wide import.

The Readjustment of Automobile Values.

Considerable stir is being created over the announcements by a number of the better known makers, of new models of the medium-powered, medium-priced order, and the various rumors that others are about to follow their lead. From this it is urged that the days of the high-priced car market are numbered and that the era of the low-priced car—that fetich of the man who cannot afford a car at any price, as well as of the man of moderate means and tastes—is about to arrive. As a matter of fact, neither of these assumptions is strictly true, though it may be a fact that the demand for machines of the super-elegant order, is being tempered somewhat by the limited return which they bring on their purchase price, and though it is unquestionable that in terms of mileage value per dollar, the cost of cars is being reduced.

As a matter of fact the man who is waiting for the day of the low priced car is likely to wait for some time to come, and probably is doomed to partial disappointment in the end. It is possible to build cars to sell at very low prices. When their cost of operation is considered, however, they are not as cheap as might appear from a casual perusal of the maker's catalogue. The few exceptions to the rule, are the product of wholesale manufacture and are likely to remain exceptions for some time to come.

The true inwardness of the movement for cars of moderate power and price is that the public has begun to demand a car of sterling qualities first and always, and has learned to discriminate in making its choice. Furthermore, it is fast coming to demand a car which will satisfy a moderate demand for speed and carrying capacity and develop high qualities of endurance and reliability. Finding that such a car can be made and sold under proper conditions for what has come to be recognized as a moderate price, the call for this type of machine is rapidly increasing. The fact that in price as in other respects, it suits the tastes of a much larger group of buyers than the more pretentious machine, accounts for the growth of the demand, and reinforces the logic of the makers who are supporting it.

It has been demonstrated beyond all manner of doubt that in the construction of two cars of, say, 40 and 30 horsepower, respectively, it is impossible to save more than 10 per cent. over the cost of the larger in building the smaller—provided only that quality of material is retained, and the design kept practically uniform. The same number of parts are present in the two, the same processes of manufacture must be carried out. Practically the only structural difference is in the amounts of metal entering into them, and this difference is relatively small. Hence the relation between the costs of different powered models made by the same manufacturer and uniform in construction, is readily explained, and in many instances responds very closely to this law—if such it may be termed.

That the "poor man's car" ever will become a reality in the bargain counter sense, is never more unlikely than to-day. That cheap cars are available at present and at various prices, and that they will continue to be so, is beyond question. The production of the strictly high grade car at what are now regarded as low prices, however,

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is highly problematical at present, except in rare cases where huge outputs and close figuring triumph. The fact of the matter is that a readjustment of values is in progress, and that in that readjustment, a certain standard type of high grade product at a reasonable price, all things considered, is being evolved. Subsequently, it is likely that the development of the lower priced car at a proportionate cost will be given greater prominence. But this must be done according to a rational system, and more or less in accordance with the "law" above cited.

What England's New Patent Law Means.

Although it has been permitted to pass with but cursory notice in this country, the new provision of the British Patents and Designs Act of 1907, which is to go into effect on the 28th of next month, is destined to have a broad and searching effect on the imports of the United Kingdom—an effect which must be felt in no small measure in this country as in others, and one which will spare no industry nor combination of industries. Its stipulation that any British patent may be declared void if the article which is protects is manufactured "exclusively or mainly" abroad, means, in a word, that exporters of patented articles who have relied upon the British market hitherto, must either dispose of their manufacturing rights to local producers, or themselves establish local factories.

Just how this will affect the automobile industry in the United States, is open to conjecture. Of the total of nearly $460,000 worth of exports for the month of May last, $132,663, or 29 per cent. went into Great Britain, while the totals for the 11 months ending with May, show that very nearly one-third of our foreign business during that period was done in England. Furthermore, it is well known that many of the better established makers here, have strengthened their position by taking out foreign patents on certain exclusive features of their product, and that although these grants by no means cover the entire machine, they are of considerable value in protecting certain characteristic features.

In the fullest interpretation of the act, then, it will mean that the manufacturer whose car is equipped with, say, an original carburetter which it is desired to continue to protect in England, must either lease the manufacturing right abroad, or contrive to have his agents assemble all but the most salient features from imported parts, which means practically, British manufacture under American license. To the maker who has a sufficiently large amount of business there already, the obvious course of establishing local assembling factories is open. The small maker, and the maker doing a limited English business, however, are likely to suffer.

In the accessory field, the effect is likely to be less marked, though the burden will be none the less felt by a few makers and jobbers who handle a considerable amount of trade in that quarter. In that case it means a practical elimination of exportation to England, or else the abandonment of patent protection.

The bulk of the burden will fall upon Germany, it appears. According to a statement attributed to Sir Alfred Jones, no less than 25,000,000 pounds sterling of foreign, principally German, capital have been invested in England already as a result of the law. Several German manufacturing and exporting firms have been forced to augment their own resources very extensively, while owing to the loss of exports, the German business has fallen off correspondingly. The German Union of Industrialists even went to the length of attempting to secure an extension of one year on the time limit set for the law to go into effect, but without success. As the manufacturing costs average much higher in England than in Germany, the conduct of the new British subsidiary factories must be more expensive than manufacturing under the old conditions has been, so that counting the cost of the new establishments, the income from German capital is likely to be greatly curtailed in the near future so far as this one field is concerned. Consequently the situation is regarded as being exceedingly grave.

Eclipse of the "One-Man" Idea.

Individual brilliancy, while perhaps being rewarded more liberally in a financial way than ever before, is no longer being "played up" so heavily as in the past, as the basis for the reputation of automobile manufacturing concerns. The "one-man" idea is being eclipsed by that mysterious thing known as "organization," and the manufacturing companies, instead of being mere hastily formed groups of men and capital to exploit and advance the respective mechanical and business conceptions of bolder pioneers, have become more institutional in character, with conservative tendencies and certain well defined lines of policy.

COMING EVENTS

July 9, Buffalo, N. Y.—Start of American Automobile Association's annual reliability touring contest for the Glidden and Hower trophies.

July 14, Spokane, Wash.—Spokane Automobile Club's hill climbing contest.

July 15, St. Paul, Minn.—Automobile Club of St. Paul's meet at Hamline track.

July 15, Huntington, N. Y.—Huntington Automobile Club's carnival and races.

Sept. 1, 2, 3, and 4, Chicago, Ill.—Chicago Motor Club's postponed 1,000-mile reliability run.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles outlaw race for foreign cars.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show in Madison Square Garden.

In many respects this is of decided benefit both to the public and the trade, sparing them the sudden and ill-considered surprises which are almost invariably incident to complete "one-man" power. The conservatism which makes more deliberate the movements and actions of large organizations is by no means the same thing as the "dry rot" which occasionally afflicts large corporations to the advantage of their more active individual rivals, but is a healthful governor on progressive ideas and enthusiasms. When an established concern of reputation announces either a new car or a new selling policy, it is not likely to be the result of a noon-hour inspiration or impulse of the day before, but the product of the combined thought and experience of many able minds. If it relates to business policy it has been decided upon only after much conference with the interests it would be likely to affect and after consideration from every possible side, while in the case of a mechanical production, it is only offered to agents and the public after long tests and an absolute ascertainment of its value.

That every concern must needs avail itself of the best talent which it can gather to its aid is of course a truth forced upon it by competition. But for its most perfect efficiency there must ever be the strong spirit of organization and settled policy rather than dependence upon individual performance.

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FIFTY-FIVE CARS IN GLIDDEN TOUR

Composition of Teams that Start from Buffalo To-day—List of Contestants for the Hower Trophy.

Fifty-five cars set out from Buffalo to-day for a 1,700 mile journey through seven States, which will consume fifteen days. The accompanying map shows the route. Thirty of the cars are contestants for the Glidden trophy, in ten teams of three cars each, while 14 runabouts are in rivalry for the Hower trophy. Eleven official and non-competing cars accompany the contestants. The tour is the fifth annual touring contest for the Glidden trophy and the second annual for the Hower trophy. Although the tour idea originated in 1905 when Charles J. Glidden put up a perpetual trophy, this is the first year that the affair has been frankly labeled a "contest," and trade rivalry is on this occasion very keen.

For the Glidden trophy, stock touring cars carrying at least four passengers, of at least 125 pounds weight each, or the equivalent in ballast, enter in teams of not less than three cars each, under the name of a club affiliated with the A. A. A. Any club may have more than one team. All replacements, repairs and adjustments must be made during the running time of the car. All replacements must be made with parts inventoried and carried at the start of the tour, except tires. Tire repairs alone are not charged against the running time of a car. Only the operator and the one mechanician may work on repairs. Each competitor furnishes an observer who serves on a different rival each day. The trophy goes to the club having the team with the most points left after all penalty deductions. For the Hower trophy, runabouts are the contestants. The trophy goes to the individual car having the most points left after all penalty deductions.

Since every Glidden team happens to be composed of three cars, the penalties will be one-third of a point per minute or fraction thereof that a car is either ahead or behind time at controls, in excess of the two minutes leeway allowed for variation in timepieces, and one-third of a point per dollar or fraction thereof of value of replaced parts inventoried and carried from the start and calculated at the manufacturers' list prices. Each team is credited with 1,000 points at the start, from which the penalties against each of its cars are deducted. Every Hower contestant is credited individually with 1,000 points, from which one whole point is deducted, where Glidden team cars would incur the one-third point.

The composition of the teams competing for the Glidden trophy, with the individual contestants' numbers, which are given preceding each contestant's name, respectively, is as follows:

Team No. 1, Automobile Club of Buffalo—1, Charles Clifton, Pierce Great Arrow; 2, Charles Clifton, Great Arrow; 3, J. W. Maguire, Great Arrow.

Team No. 2, Columbus Automobile Club—5, E. H. Parkhurst, Peerless; 6, E. H. Parkhurst, Peerless; 7, E. H. Parkhurst, Peerless.

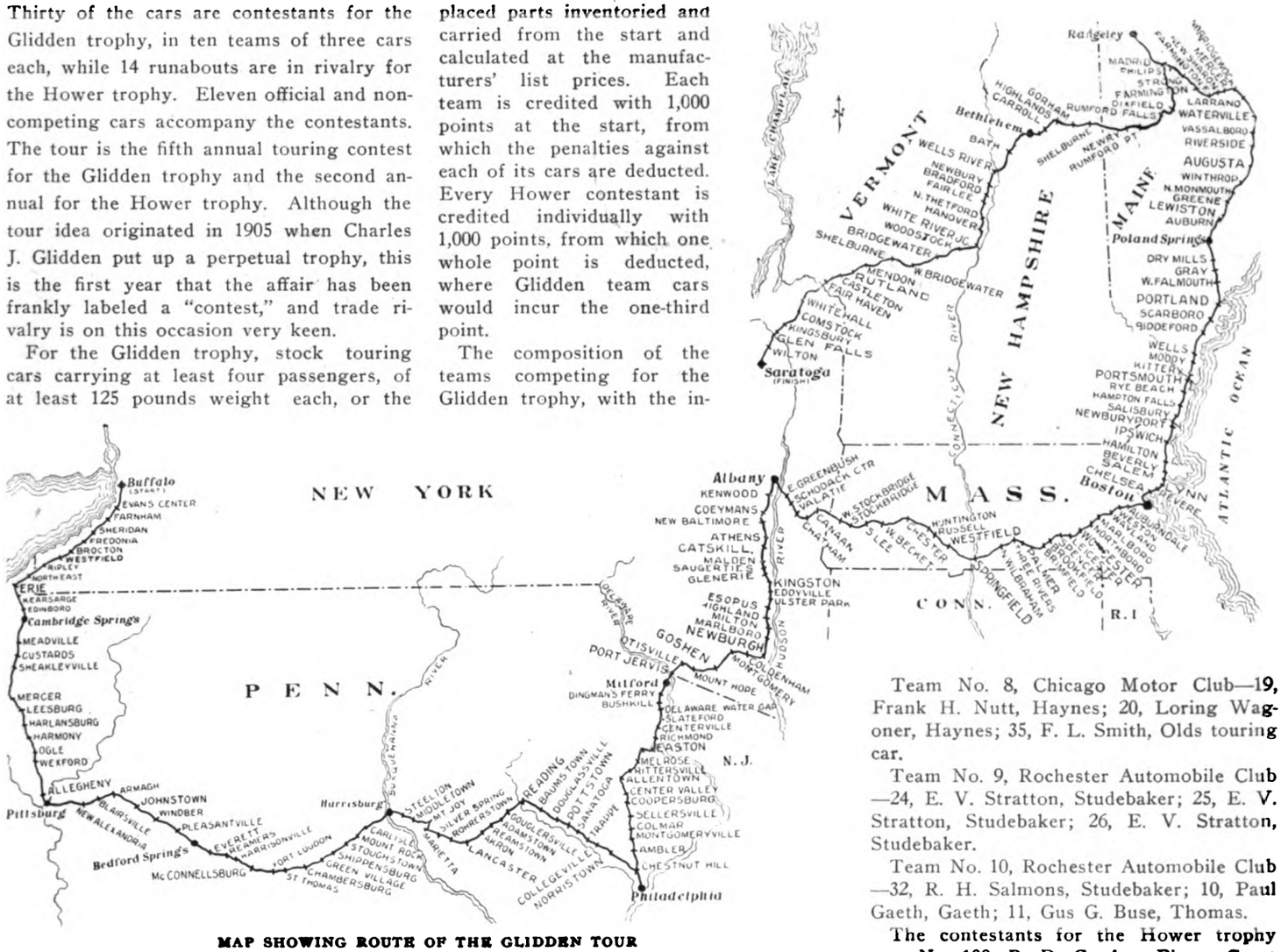
Team No. 3, Automobile Club of Syracuse—12, H. H. Franklin, Franklin; 13, John Wilkinson, Franklin; 14, G. H. Stillwell, Franklin.

Team No. 4, Bay State Automobile Club—21, Frank E. Wing, Marmon; 22, W. C. Marmon, Marmon; 23, W. C. Marmon, Marmon.

Team No. 5, Chicago Motor Club—15, Andrew Cuneo, Rainier; 27, J. B. Eccleston, Oakland; 28, E. M. Murphy, Oakland.

Team No. 6, Cleveland Automobile Club—29, A. R. Davis, Garford; 30, A. R. Davis, Garford; 31, A. R. Davis, Garford.

Team No. 7, Automobile Club of Buffalo—4, R. M. Owen, Reo; 8, R. M. Owen, Premier; 9, H. O. Smith, Premier.



MAP SHOWING ROUTE OF THE GLIDDEN TOUR

Team No. 8, Chicago Motor Club—19, Frank H. Nutt, Haynes; 20, Loring Wagoner, Haynes; 35, F. L. Smith, Olds touring car.

Team No. 9, Rochester Automobile Club—24, E. V. Stratton, Studebaker; 25, E. V. Stratton, Studebaker; 26, E. V. Stratton, Studebaker.

Team No. 10, Rochester Automobile Club—32, R. H. Salmons, Studebaker; 10, Paul Gaeth, Gaeth; 11, Gus G. Buse, Thomas.

The contestants for the Hower trophy are: No. 100, R. D. Garden, Pierce Great Arrow; No. 101, R. M. Owen, Reo; No. 102, W. H. Vandervoort, Moline; No. 103, Charles Clifton, Great Arrow; No. 104, George A. Weideley, Premier; No. 105, John Breyfogle, Gearless; No. 106, F. A. Barton, Franklin; No. 107, G. P. Moore, Stoddard-Dayton; No. 108, E. W. Shirley, Overland; No. 109, H. C. Tillotson, Stoddard-Dayton; No. 110, J. N. Willys, Overland; No. 111, J. N. Willys, Overland; No. 112, R. G. Cox, Stoddard-Dayton; No. 113, A. L. Kull, Gyroscope.

Official cars—95, R. M. Owen, Reo, official; 97, R. M. Owen, Reo, pilot; 98, R. M. Owen, Reo, pilot; 99, Charles Clifton, Great Arrow, chairman's car; 96, Packard, red cross car.

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ONE-TWO-THREE FOR GERMANY

Teutons Capture the Honors in the Grand Prix—Double Tragedy in Last Round of the Contest.

For the first time since 1903, Germany triumphed in the conquest of a great international road race, when Lautenschlager, driving a Mercedes, won the Grand Prix, after covering 478.3 miles of the course in 6 hours 55 minutes and 43⅘ seconds, or at an average rate of 69 miles an hour. As if this spectacular victory of one man and one car were not sufficient in itself, the triumph was reinforced by the winning of second and third place by Hemery, he of Vanderbilt Cup, and later of Ormond fame, and Henriot, both driving Benz cars, while of the seven leading cars at the finish, five were German.

America's sole representative, Strang, in the Thomas car, was hopelessly beaten from the start. It was said at the time, that an accident prior to the race had disabled the transmission in such a way as to eliminate the reverse and two of the forward gears. In the face of this handicap, he had the courage to start, and succeeded in completing the first round in 53 minutes 44 seconds. More difficulties developed later, however, and he was forced to withdraw.

The race, which was held last Tuesday, 7th inst., over the Dieppe circuit, and covered practically the same ground as last year, was by all odds the most spectacular which has been seen since the inauguration of the Grand Prix. For the first time, the engine dimensions were limited, the cylinder bores being restricted to 155 millimeters, or 6 inches and a trifle over, so that a certain uniformity of power output was required. The stroke required in the winning Mercedes was 6.6 inches, and the rated output, like that of the majority of the cars, was 120 horsepower.

Several accidents, involving two fatalities, marred the running of the contest. On the last round of the race, the Panhard, driven by Cissac, was overturned at a sharp corner, owing to the ripping off of one of the tires. Both Cissac and Schaub, his mechanic, were pinned beneath the machine, and were killed almost immediately. Harrison, driver of the British, Weigel, car, also was badly injured by the overturning of his machine, but it is thought he will recover.

Forty-nine cars started in the race, of which number only 23 survived. From the very beginning a furious pace was set up, and excitement was at a fever heat among the spectators. Szisz (Renault), Thery (Brasier), and Bablot (Brasier), all broke the record for the round on their first lap. Wagner (Fiat), and Salzer (Mercedes), however, bettered even that, and the former captured the record for the fastest round, averaging the entire distance at the rate of 78½ miles an hour, and thus adding one more laurel to German's wreath.

A breeze sprang up as the second lap was in progress, and rapidly ripened into a gale, which somewhat impeded the drivers. The leaders soon began to weary of their pace and one by one fell back, while the usual tire troubles also began to have their effect. Lautenschlager forged to the front in the fourth lap, and held that position to the end of the race, driving with remarkable uniformity, and in luck as to tires and minor mishaps.

France's consolation was that the drivers of the two Benz cars which finished second and third, were Frenchmen, and that Hemery distinguished himself by the most signal display of pluck ever witnessed in connection with an event of this description. When the race was half over a stone thrown up by the wheels, struck his goggles, shattering them, and driving a bit of glass into one of his eyes. He continued on the the tribune and called for a physician, but upon examination it was found that the particle could not be removed. Refusing to discontinue the race, he submitted to an injection of cocaine, and continued to the dramatic finish.

Italy, represented by six cars at the start, had the discomfort of seeing all but two of them drop out of sight, only Cagno and Fournier, the latter veteran winner of the Gordon Bennet race of 1901, finishing in 11th and 20th places, respectively, with their Itala cars. Two of the three Belgium and two of the six English cars survived.

The crowd was the greatest ever assembled for such an occasion, and assumed stupendous proportions, even on the first day, when the "Little Grand Prix" was run. Reports of the magnitude of such throngs always are uncertain, but the estimate of "nearly a million," in this connection, is one not easily forgotten. The drivers who finished the course, with their total times, were as follows;

No.	Driver, Car, and Country.	Time.
1	Lautenschlager, Mercedes, Ger.	6:55:43⅘
2	Hemery, Benz, Germany	7:04:24
3	Henriot, Benz, Germany	7:05:13
4	Rigal, Clement-Bayard, France.	7:30:36
5	Poegge, Mercedes, Germany	7:32:31
6	Joerns, Opel, Germany	7:39:40
7	Erbe, Benz, Germany	7:43:21
8	Dimitrievitch, Renault, France.	7:54:12
9	Heath, Panhard, France	7:55:36
10	Perpere, Germain, Belgium	7:59:08
11	Cagno, Itala, Italy	8:07:56
12	Gabriel, Clement-Bayard, Fr.	8:11:44
13	Courtade, Motobloc, France.	8:12:42
14	Garcet. Motobloc, France	8:19:56
15	Caillois, Renault, France	8:19:57
16	Janatzy, Mors, France	8:24:44
17	Jarrott, Mors, France	8:39:20
18	Brabazan, Austin, England	8:42:50
19	Resta, Austin, England	8:46:50
20	Fournier, Itala, Italy	8:47:20
21	Opel, Opel, Germany	9:08:11
22	Degras, Germain, Belgium	9:13:34
23	Farman, Panhard, France	9:24:40

The winner's average speed was less than that of Nazzaro, last year's winner.

Germany's last notable victory was in 1903, when Jenatzy, also driving a Mercedes captured the Gordon Bennet Cup, which had been held by England. The two succeeding Bennet cup races were won for France by Thery, while the first Grand Prix, in 1906, was captured by Sisz, also for France. Last year, Nazzaro's victory upraised Italy's standard for the first time.

As a sort of curtain-raiser to the main race, and on the day previous, the Grand Prix de Voiturettes was run. Actually it was a huge demonstration of the type of light, low-powered car, which is having such tremendous vogue in Europe at the present time. Guyot, driving an 18 horsepower, two-cylinder Delange, captured the honors in this event, driving a steady race at the remarkable speed of 80 kilometers or nearly 50 miles an hour. The Sizaire & Naudin and Lion cars, which finished second and third, were driven by Naudin and Goux.

The limiting conditions for entries specified that the cars should weight 600 kilograms, or about 1,300 pounds, and that they should be listed at from $1,200 to $1,500. There were 47 starters, and 32 survivors. The race was spirited, though by no means spectacular. Accidents were of a minor nature, none of them resulting seriously to the contestants, despite the fact that no less than five of the pigmies were overturned at one point or another in the course. Like the big race on the following day, this was a Michelin tire event, no less than the first five cars carrying this equipment, while the first three places in the Grand Prix itself, were secured on the same reliable basis.

Exposition of Road Making Planned.

An extensive exposition of road-making materials and accessories is being organized as an adjunct to the International Congress which is to be held in Paris, October 11 to 18. How inclusive the scheme is, is shown by the fact that among its exhibits will be numbered such literature as maps and plans of construction, and data on cost of upkeep; tar, stone and wood paving materials; road rollers, tar-spraying apparatus, tools and appliances. One section will be devoted exclusively to a display of wheels for heavy vehicles, spring and elastic wheels, tires, anti-skidding devices, and springs and exles.

Not Running in Presidential Race.

Somebody has been going over the pages of the new Boston directory to cull out distinguished names borne by residents of that city. Among the names found was that of William H. Taft, who is proprietor of a garage in the Brighton district.

Salt Lake Organizes a Club.

The Salt Lake Automobile Club has been organized in Salt Lake City, Utah, with the following officers: O. H. Hewlett, president; L. L. Terry, vice-president; J. E. Jennings, secretary; C. R. Pearsall, treasurer.

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RAINY DAY MEET AT LONG BRANCH

De Palma Captures Two Events at Elkwood Park Opening—Two Thrilling Accidents Mar Exciting Contests.

Intermittent showers and a sloppy track resulting in several accidents, marred what otherwise would have proved a successful meet at the Elkwood Park mile track, near Long Branch, N. J., on Saturday last, 4th inst. It was the first meet of the newly organized Elkwood Park Automobile Association, and had the weather been favorable the attendance doubtless would have been record-breaking, several thousand spectators being in the stands despite the threatening weather.

A heavy shower at noon made the holding of the races seem doubtful but as it cleared up afterwards the promoters decided to take a chance and some time after 2 o'clock the first event—five miles for stripped stock cars—was called. Al Poole, on an Isotta, stalled his motor at the start and threw a shoe in the first lap, two things which put him out of the running before the race was well under way. Ralph De Palma, Allen-Kingston, jumped into the lead at the start, with Stewart Elliott, American, second, and Arthur Warren, Stearns, in third position. This order was maintained until the tape, De Palma, who drove a clever race, winning handily.

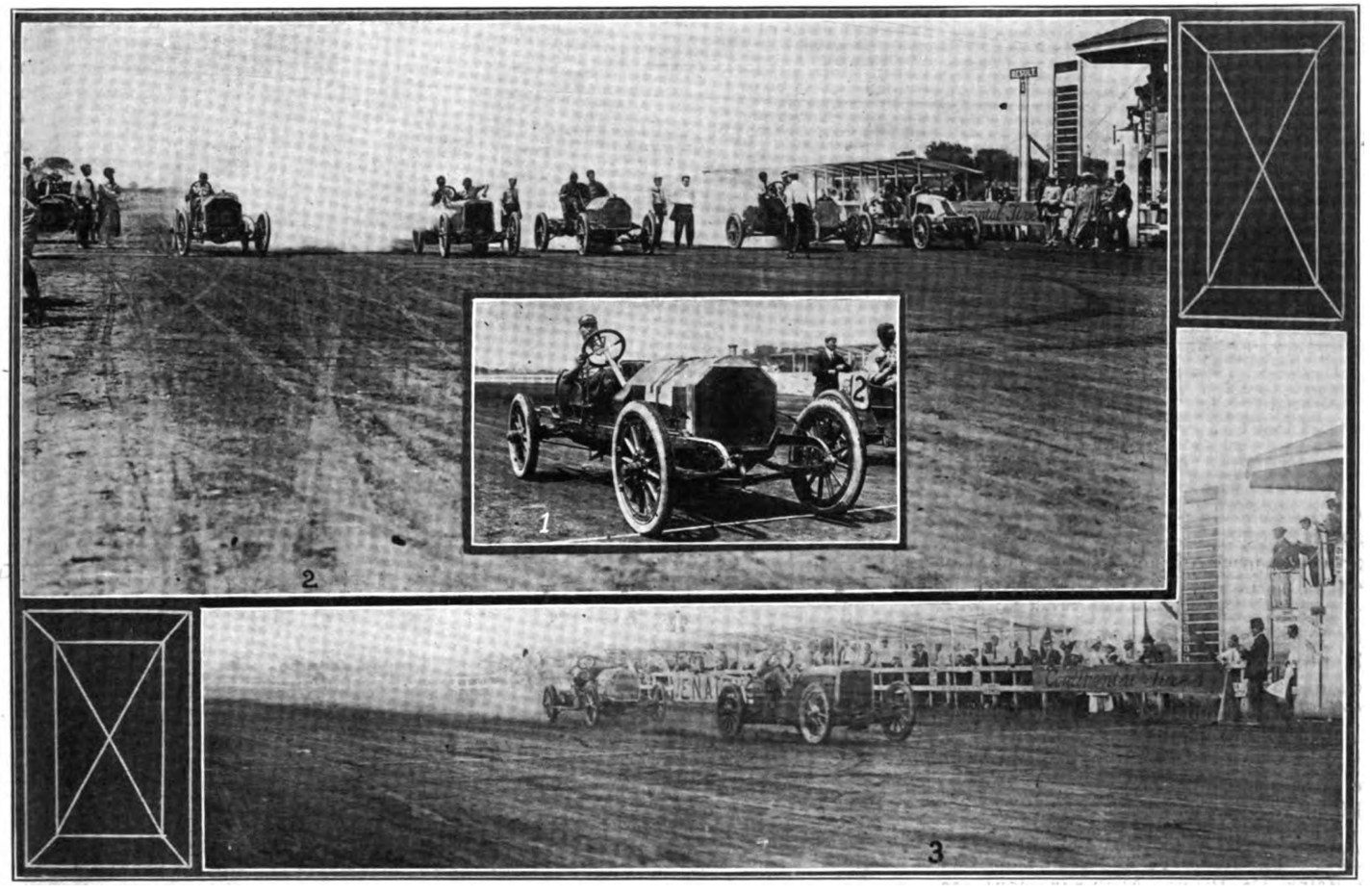
The amateurs had their innings in a ten miles open, which brought out five starters. James Doig, Stearns, proved the quickest starter, but he had not covered one lap before Stewart Elliott, in the American, got the lead. Elliott lapped W. B. Anderson, Welch, in the eighth mile and continued until the finish, with Doig second, and T. J. Scully, Packard, third. Time, 10:53.

Another shower came up about the time the amateur event was disposed of and after waiting a long time for it to blow over the 50 miles free-for-all, which had a cup and a cash prize of $100 to the winning driver, was started, with seven cars in line. The first smashup came in the first lap when Warren in the Stearns, and Fisher in the Auto car rounded the upper turn into the stretch together. The Stearns skidded in an oily pool, slewed diagonally across the track and turned turtle as it crashed into the fence. Warren jumped, but Crawford, his mechanic, was pinned beneath the car, and while in that position the Autocar banged into it. The driver and mechanic of the latter escaped injury, but the car was put out of commission.

Crawford and Warren were badly hurt. The former's left foot practically was severed from the body, while Warren had his collar bone and one leg broken. Both men were removed to the LongBranch hospital and a short time afterward the same ambulance had to make another trip. The second accident occurred in the 29th mile. Bellows, in the Renault, while in a brush with De Palma on one of the curves, hugged the pole too closely and went through the inner rail, tearing away thirty feet of the rotten fence before it overturned. Bellows was hurled some distance through the air while Meyer, his mechanic, in attempting to jump, landed head first, but broke his fall with his arm, which broke. Both men were badly bruised and shaken up. The accidents were too much for some of the spectators and they left the grounds.

Ralph De Palma assumed the lead after the fifth mile, and from then until the finish he was never headed, finishing the distance in 55 minutes 59⅗ seconds, fast time when the muddy track is taken into consideraton. Henry Lozier, in a car of that name, had covered 47 miles, and C. Frewin, Welch, 44 miles, when De Palma crossed the tape.

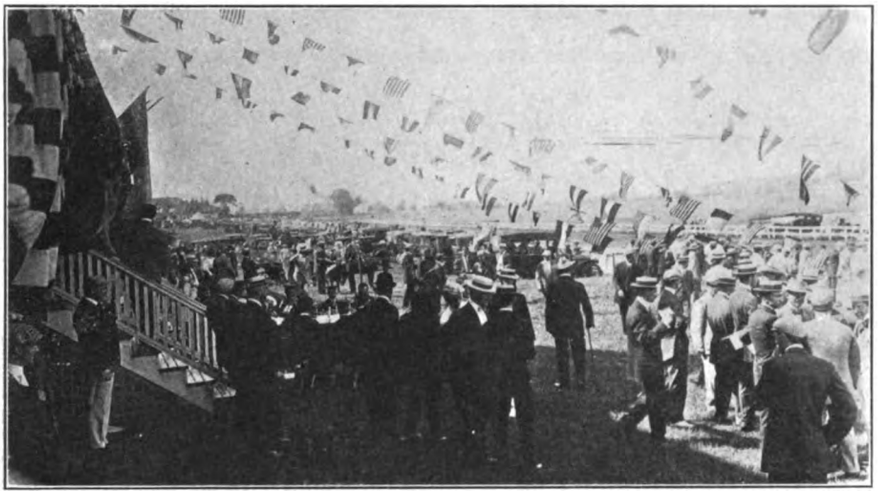
One of the best events of the meet was the 100 miles race for cars of the Briar-



1. RALPH DE PALMA (ALLEN-KINGSTON) WINNER IN TWO EVENTS. 2. LINED UP FOR START OF FIVE MILES RACE.
3. STEWART ELLIOTT (AMERICAN) WINNING EVENT FOR AMATEUR DRIVERS.

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cliff race type, but it was due more to luck than to anything else that no casualties occurred. Slow time resulted as the drivers did not take any more chances than were absolutely necessary after the two accidents in the previous race, but despite their cautiousness the cars skidded all over the track at times. Heavy showers came down intermittently during the progress and the last half of the race was over a course so thick with oil and water that only in places was the surface of the track visible. The fight between Poole and De Palma was well worth the price of admission. The pair kept up a running fight from start to finish, and they were never separated by more than a half lap. The outcome was doubtful until Poole finally crossed the line 12 seconds in advance of young De Palma. Harry Lozier finished six miles behind, and Prossen in the Bianchi was fourth, having covered 90 miles. Both the Isotta and the Allen-Kingston cars were fitted with Michelin tires, which gave them three firsts out of a possible four. The summaries:



SCENE ON THE LAWN IN FRONT OF THE GRAND STAND

Five miles for stripped stock cars—Won by Ralph De Palma, Allen-Kingston; second, Stewart Elliott, American; third, Arthur Warren, Stearns. Times, 5:25⅘, 5:31⅗, 5:38⅗.

Ten miles, for amateur drivers—Won by Stewart Elliott, American; second, James Doig, Stearns; third, Thomas J. Scully, Packard. Times, 10:53, 11:07⅗, 11:42⅗.

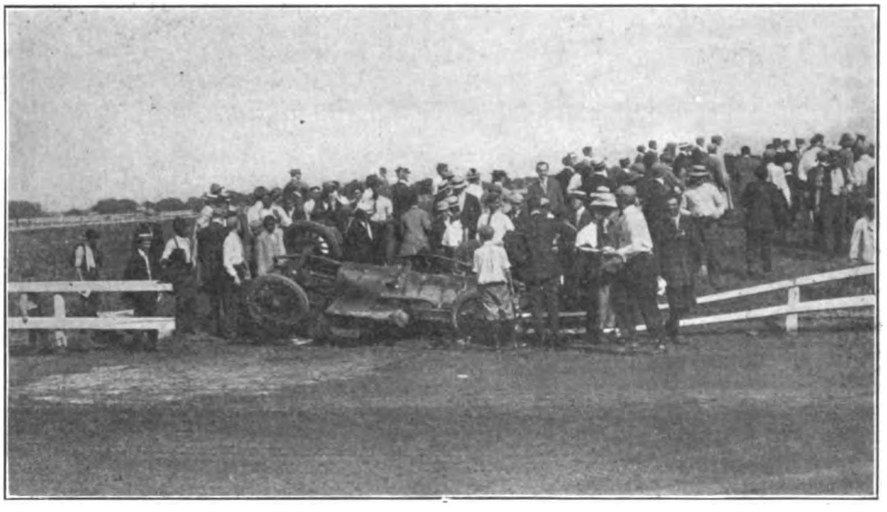
Fifty miles, free-for-all—Won by Ralph De Palma, Allen-Kingston; second, Harry Lozier, Lozier; third, Charles Frewin, Welch. Time, 55:59⅗.

One hundred miles for Briarcliff type cars—Won by Al Poole, Isotta; second, Ralph De Palma, Allen-Kingston; third, Harry Lozier, Lozier. Time, 2:10⅗.

Two New York-Paris "Racers" Crippled.

Ill fortune has beset both the American and the German contestants in the New York-Paris "race" since the last bulletin of their progress appeared in the Motor World. Both the Thomas car and the German Protos car have suffered serious delay, and this proved especially trying to the American crew because of the fear that the Germans again had got ahead of them. The fear, however, proved groundless. The Protos car did not reach Omsk until the 3d inst., and it was in such need of repairs that it had to remain there until the arrival of new parts required.

Shuster, on the Thomas, left Omsk early in the morning on Wednesday, 1st inst., and got along smoothly until after crossing the Irtish river, 30 miles from Omsk, a swamp a mile wide was encountered. When nearly across the car cut through the straw with which the road had been covered to prevent wagons sinking, and the strain attending the attempt to get out cracked two teeth of the driving gear, leaving the car unable to run.



WHERE ARTHUR WARREN'S STEARNS TURNED TURTLE

It was necessary to get a block and tackle and haul the car out of its position. Men, women, and children from the nearby village of Marianovka meanwhile gathered to see the car, and, learning its plight, all of them volunteered to help. They all took hold of the 200-foot rope, and in an intended triumphant march, dragged it into the town.

Shuster immediately returned to Omsk in a peasant car to get the extra driving gear, which had been expected at Omsk. The car was able to proceed on the 4th inst., though still severely crippled.

Bermuda Losing Through Exclusion.

As a result of Bermuda's exclusion of the automobile, commercial interests already have begun to suffer, owing to the large number of absentees during the season. It is stated by the former transient inhabitants of the island that many of the more charming scenes are inaccessible without the fast conveyances, and that they cannot reach all the drives or visit all the beautiful sections in Bermuda in horse drawn vehicles on account of the distances. As a result most visitors are denied many of Bermuda's beauties. Already a road or speedway for the exclusive use of automobiles and fast horses, running from St. George's to Ireland Island, has been proposed, the idea being to support it by the collection of tolls.

Hoffman First in Race at Tuxedo.

W. M. V. Hoffman, driving a Packard, won the automobile race that formed a feature of the Fourth of July games at fashionable Tuxedo Park, N. Y. The course was 1½ miles long and Hoffman covered the distance in 1:07. Richmond Talbot, Fiat, was second, and W. M. Weygant, Locomobile, third.

California Reliability Run Postponed.

The reliability run promoted by the Automobile Dealers' Association of California, which was to have been held July 3 and 4, has been called off. Conflicting dates made the entry list small and for this reason an indefinite postponement was deemed advisable.

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KEEN COMPETITION AT WILDWOOD

Schill Lowers Local Mile Record—Fourteen Perfect Scores in Reliability Run Preceding the Carnival.

A crowd estimated at 20,000 witnessed the Independence Day meet of the Motor Club of Wildwood, N. J., held on the level Central boulevard, the feature of which was the breaking of the record for that mile straightaway stretch by Paul Schill, of Philadelphia. Schill drove a 120 horsepower racing car and covered the distance in 42⅗ seconds, which was 1⅗ seconds better than the time made by Montague Roberts at the meet last year.

Schill's fast flight was accomplished in the time trials for all classes and in this event the contestants had better opportunity to speed than in the stock car events that preceded the piece de resistance of the day. The stock cars had to go against a strong head wind, but when the time trials were put on the direction was reversed. William Haupt, the Philadelphia young man who has been doing hill climbing stunts all the season, disappointed his many followers as they confidently expected him to win in a walk, and they had backed up this expectation with real Quaker City spending paper. Haupt made three trials, but he failed to touch Schill's record, his fastest trial being recorded in 43⅗ seconds.

Rain in the early morning cast a gloom over the thousands of people that poured into the resort, but before 10 o'clock the sun came out strong and from then until the close of the meet the weather man was favorable. Despite the immense crowd that lined both sides of the boulevard, the policing by the North Philadelphia Boys' Brigade was all that could be desired.

Although the nine events were not filled as well as they might have been the competition was keen throughout, and in spite of the head wind the stock cars made fast time. Walter Cram, driving a Mitchell, won in the class for cars between $1,251 and $2,000, in 1:33, but this time was reduced in the class for cars between $2,001 and $3,000, when Frank Lescault, Palmer & Singer, defeated Len Zengle, Pennsylvania, and George Davis, Apperson, in this order in 1:13⅕.

Thomas cars got first and second in the event for cars between $3,001 and $4,000, W. Mullen finishing first and W. M. Magraw second. W. J. Sprankle, in a Premier, was third. Mullen also won a special event.

Schill won both the open for four cylinder gasolene cars and the free-for-all, but his fastest time was made in the time trials. The summaries:

Gasolene cars selling under $1,250—Won by Edward Wilkie, Buick; second, Walter Cram, Mitchell; third, W. H. Ford, Overland. Time, 1:28⅕.

Gasolene cars selling between $1,251 and $2,000—Won by Walter Cram, Mitchell; second, W. H. Ford, Overland. Time, 1:33.

Gasolene cars selling between $2,0001 and $3,000—Won by Frank Lescault, Palmer & Singer; second, Len Zengle, Pennsylvania; third, George E. Davis, Apperson. Time, 1:13⅕.

Gasolene cars selling between $3,001 and $4,000—Won by W. Mullen, Thomas; second, W. F. Magraw, Thomas; third, W. J. Sprankle, Premier. Time, 1:04⅖.

Open for four cylinder cars over $4,000—Won by Paul Schill, Fiat; second, Charles J. Swain, Apperson; third, H. Goodin, Stearns. Time, 0:53⅕.

Six cylinder cars—Won by F. J. Nordell, Chadwick; second, Joseph Parkin, Jr., Parkin. Time, 1:00.

Free-for-all—Won by Paul Schill, Fiat; second, Joseph Parkin, Jr., Parkin; third, W. Chalmers, Chalmers-Detroit. Time, 0:49⅘.

Time trials—Charles J. Swain, Apperson, 0:52⅖; Paul Schill, Fiat, 0:44⅗, 0:45⅖, 0;42⅖; William A. Wood, Cleveland, 1:13⅗; Joseph Parkin, Jr., Parkin, 0:53⅗, 0:53; W. Chalmers, Chalmers-Detroit, 0:51⅖; George E. Davis, Apperson, 1:06⅗; Edward Wilkie, Buick, 1:13⅗; Walter Cram, Mitchell, 1:18; W. F. Magraw, Thomas, 1:01⅕; William Haupt, Chadwick, 0:45⅘, 0:43⅘, 0:42⅗.

Special event for gasolene cars selling between $2,001 and $3,000—Won by W. Mullen, Thomas; second, Len Zengle, Pennsylvania; third, George E. Davis, Apperson. Time, 1:02.

The feature during the morning was a decorated parade on the boardwalk in which a score or more of cars participated. The prize for the best decorated cars went to W. Wayne Davis, Matheson.

The curtain raiser to the meet on Saturday was a reliability run from Gloucester City, N. J., a few miles below Philadelphia, to the shore, and although a number of cars started many had to turn back because they had failed to comply with the New Jersey laws. Twenty-four of the starters finished, however, with fourteen of that number in the perfect score class. As there was only one prize, a cup, it was agreed that the perfect scorers should draw by lot, the unlucky thirteen receiving certificates. The cup was drawn by J. M. Hendricks, Chadwick, the other finishers being:

W. F. Magraw, Thomas; H. Greenwood, Premier; D. H. Beck, Packard; E. Humphreyville, Stanley; B. Thorpe, Studebaker; W. H. Taylor, Reo; E. A. Wright, Oldsmobile, J. D. Avil, Pope-Hartford; W. J. Spronkle, Premier; J. H. Hendricks, Chadwick; Walter Cram, Mitchell; E. A. Jackson, Mitchell; W. Freitg, Mitchell; D. Little, Mitchell; A. J. Bankard, Dragon; A. A. Jones, Ford; W. T. Wilkinson, Packard; W. H. Ford, Overland; J. W. Parkin, Parkin, and Turner Sharp, Winton.

An open air show Friday evening arrested the attention of the boardwalk promenaders, the racing cars being on exhibition.

SURPRISES AT BALTIMORE MEET

Morton Beats Favorites in Pimlico Handicap—Leinbach Wins a Championship—Wagner Exposes Trickery.

Although there was a multiplicity of events on the boards at Baltimore on the Fourth, more than 3,000 persons turned out to witness the race meet projected by the Motorcar Racing Association. Louis Bergdoll, of Philadelphia, who had been advertised as one of the features of the meet, and the only man looked upon to have a chance against E. L. Leinbach, the local, failed to show up, but despite his nonappearance the events were run off smoothly and without accident, excepting in the motorcycle match race, when Thomas skidded in a wet spot and ran into the fence.

The ten miles Pimlico handicap proved the feature automobile event of the meet and it resulted in some surprises. Leinbach was on scratch, with Wallace Hood, Thomas, of Washington, on ten seconds. The wise "fans" had it all doped out that there was nothing to the race but Leinbach first and Hood second. They were, consequently, somewhat surprised when Hood, after making a spurt at the start, faded away in the ruck, while Leinbach could not make up the distance because of the fast pace set by Morton out in front. Roy Stains and Morton held together most of the way, until a mile to go, when the latter took the lead and sprinted for the tape. Leinbach got an easy third.

The Maryland runabout championship at 10 miles created some interest and Leinbach was the favorite. Starter Wagner discovered two tanks on Hood's car and would not let him start. This left Leinbach with practically no opposition and after nosing out a lead at the start he cakewalked home in blue ribbon fashion.

Three starters lined up for the baby runabout event at five laps, and Jefferson Davis assumed command of the run at the start. He was not allowed the position long before Robert F. Kaehler's little Ford rushed to the front and after that there was nothing to it but him.

As the 50 miles event was for cars of 45 horsepower and under, Leinbach did not have a chance for a walkover. Morton jumped into the lead at the start and ran in front from then until the finish. The second Pullman car dropped out on the 28th mile with tire trouble, and John Auchfield finished second.

While these cars were tuning up for the race a motorcycle match between Mangold of Washington, and Thomas of Baltimore, was arranged. Thomas got off first to a flying start, but on the backstretch Mangold overhauled and passed. At the three-quarters pole the watering cart had left a wet spot and Mangold slowed when he saw it.

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Thomas took a long chance and tried to come through on the pole. His machine slipped from under him and he bumped into the fence. He was considerably bruised and cut, but was able to hobble off the track.

Mangold won the five miles piston displacement handicap for motorcycles, starting with 20 seconds handicap. Thomas started from the same mark and the fight between the pair was interesting. W. S. Fisher, a 30 seconds man, was third. The summaries:

Five miles for runabouts costing under $1,250—Won by Robert F. Kaehler, Ford; second, Jefferson Davis, Cameron; third, George E. Norwood, Overland. Time, 6:59.

Ten miles, Maryland runabout championship—Won by E. L. Leinbach, Stearns; second, Roy Stains, Pullman; third, Robert Morton, Pullman; fourth, J. F. Brown, Autocar; fifth, E. H. Freas, Autocar; sixth Chester Smith, Autocar. Time, 11.04⅗.

Five miles for stock touring cars between 20 and 40 horsepower—Won by Robert Morton, Pullman; second, E. L. Leinbach, Moon. Time, 6:06.

Five miles motorcycle piston displacement handicap—Won by M. E. Mangold, Indian (20); second, Chic Thomas, Indian (20); third, W. S. Fisher, Indian (30). Time, 5:49.

Ten miles free-for-all handicap—Won by Robert Morton, Pullman; second, Roy Stains, Pullman; third, E. L. Leinbach. Stearns. Time, 10:36.

Fifty miles for stripped stock cars not exceeding 45 horsepower—Won by Robert Morton, Pullman; second, John Archfield, Autocar; third, A. W. Behrens, Maryland; fourth, J. F. Brown, Autocar. Time, 57:08.

One mile motorcycle match—Won by M. E. Mangold, Indian. Time, 1:20. Chic Thomas fell.

Somerville's Fourth of July Parade.

Automobile owners contributed largely to the success of the ambitious celebration of Independence Day which was held in Somerville, Mass. Nearly 100 cars were included in an automobile parade over a twelve miles route. They moved in four divisions, the first consisting of decorated vehicles and the last comprising specimens of the vintages ofearly days in the history of motoring. Three prizes were offered for competition in the decorated division. John H. MacAlman won the first prize with his large touring car which was decorated with wistaria and yellow fabric. Mrs. F. A. Dutton, who won second prize, drove a large car covered with rambler roses and laurel, even the wheels being masses of floral beauty. Mrs. Fred C. Kendall, third prize winner, had a very pretty turnout, her runabout being trimmed with wistaria, while Mrs. Kendall and her companion, Mrs. G. L. Wehre, wore white gowns and purple picture hats, carrying parasols to match. The route of the parade was profusely decorated.

WESTCHESTER WANTS FAIR PLAY

Prominent Residents Organize a Roads Association—Aims to Secure Sane Enforcement of Automobile Laws.

With the lofty purpose of "arousing and solidifying public opinion against unnecessarily severe automobile laws and ordinances," among its objects, the Westchester Roads Association, composed of residents of Westchester county, N. Y., has been incorporated. That among its objects also is numbered the purpose of protecting the interests of Westchester county real estate, also is to be inferred from the list of officers composing its directorate, as well as from the direct avowal of Secretary John R. Faure, who explained, in reference to the organization of the association:

"Something must be done for the protection of real estate values in Westchester County. Many good people come riding through the county, fall into a foolish automobile trap, are held up, arrested, fined, and subjected to a great deal of unwarranted annoyance and sometimes humiliation. . . . . Of course, some automobilists ought to be arrested, but it is the ridiculous laws and ordinances and the ridiculous enforcement of them that is hurting the county."

That the association has not been formed without due provocation, is shown by the fact that nearly the whole of Greater New York is at present encircled with a belt of speed traps, most of which are worked with great vigor and small regard for the personal feelings of the motorists. A bright and shining light in contrast to the general rule in this respect, is the chief of police of Port Chester, N. Y., who instead of establishing speed traps, makes it a practice to deliver a printed card of welcome to visiting motorists, which bears a polite request that the speed laws be not violated in his particular domain.

The officers of the Westchester Association are: President, I. D. Bristol, Chappaqua; vice-president, J. Mayhew Wainwright, Rye; treasurer, Walter W. Law, Jr., Briarcliff Manor; secretary, John P. Faure, Ossining. The vice-presidents in addition to Mr. Wainwright are Seth Low, Bedford Station; V. Everit Macy, Scarsborough; John McKesson, Jr., Mt. Kisco; J. J. Riker, Port Chester; F. C. Stratton, Mt. Vernon, and F. M. Warburg, White Plains.

Putting the Traps out of Business.

The best offset to speed traps is observance of the law by automobilists. This fact was illustrated on Sunday, 5th inst., by the poor returns in fines imposed through the operation of a trap established by the authorities of Hempstead, L. I., on the Bethpage turnpike. A stretch of the pike was measured off and a number of deputies were posted there with stopwatches. Instead of the large number of fines that were expected from arrests there were only two drivers arrested and one was fined $25 for going at what the deputies said was 64 miles an hour, while the other man paid $10 for traveling at 34 miles an hour. One of the drivers arrested notified the Long Island Automobile Club of the location of the speed trap and the club sent out men with cards asking drivers to slow down through the district, the result being that the deputies found their occupation gone from then on, as none of the motorists drove their cars at a faster pace than is allowed by law.

At a meeting of the Massachusetts Automobile Owners' Association, held in Boston on Thursday, 2d inst., it was voted to expend a considerable sum of money to rid the Commonwealth of automobile traps. The plan is to have men in khaki uniform stationed at or near places where the police have located traps, and to ask every automobilist to drive slowly through the particular part of the highway which is being guarded. A card will be handed to every automobilist, and it is expected that this work of the association will have a beneficial effect. The card will read as follows: "Please respect the wishes of the people of this town and drive slowly. Automobile Owners' Association, 1016-1017 Beacon building, 6 Beacon street, Boston. Francis Hurtubis, Jr., Counsel. Telephone, Haymarket, 970."

Atlantic County Again Polices Roads.

At the instigation of the local farmers, the Atlantic County (N. J.) board of freeholders, last week adopted a resolution for the reappointment of seven special automobile constables to do duty on the county highways during the summer. A movement was on foot to eliminate this year, the special constabulary, which was appointed last year for the first time, it is said. The farmers, getting wind of the attempt, circulated a petition which, reinforced with more than 200 names, was presented to the board at its last meeting, when the desired action was promptly taken. The appropriation required for the policing of the roads in this way provides for a salary of $60 a month for each of the special officers.

Political Caravan a Big Success.

The unique trip taken by the Illinois delegates to the National Democratic convention, from Chicago to Denver in five Studebaker automobiles, has not only given the delegates themselves a good time and a novel experience, but has been a source of gratification to its promoters because of the entire success with which the project was carried out. No small part of the honors is claimed for the Diamond tires with which the cars were equipped, the only tire trouble in the whole distance and for all five machines being four punctures, every original tire making the entire trip and arriving in Denver in good condition.

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EXPERTS DISCUSS ROAD PROBLEMS

Three National Bodies and Many States Represented at Buffalo Convention—Important Resolutions Adopted.

With the unanimous adoption of the set of resolutions reported by Charles Thaddeus Terry, chairman of the committee on resolutions and counsel for the American Automobile Association, by which the American Roadmakers' Association, the National Grange and the American Automobile Association pledge themselves to work for the election of national and State legislators who will support the uniform State motor vehicle bill proposed by the A. A. A. and the enactment of the Federal automobile registration bill, the Good Roads and Legislative convention, which was held in Buffalo on Tuesday and Wednesday of this week, showed the first tangible result of the conference which had already given promise of playing an all important part in the development of American highways.

The convention opened in Buffalo, N. Y., on Tuesday with an attendance well up to the expectations of the promoters. Three national organizations were represented—automobile men, farmers and road makers—making the convention the most important and influential for the improvement of the highways that has ever been held in this country. The business of the convention consisted in the main of addresses by men who are recognized authorities on the subjects on which they spoke. A practical as well as educational feature of the program was provided by showing the delegates different kinds of highways in the process of construction, for which purpose several miles of roadway in the vicinity of Buffalo were exhibited in various stages of completion.

One of the important papers read was that of State Engineer Frederick Skene, of New York, embodying a brief historical sketch of the road system of New York State. In regard to the importance of the highway improvement propaganda, he said:

"The necessity for the improvement of the highways of this State is now so well established that argument is scarcely necessary, but in case objections should be raised to the cost of the work, it is well to bear in mind the fact that during the period of 10 years prior to the inauguration of highway improvement by State aid, the United States Government statistics showed a decrease in farm values in only four States of the Union, the greatest occurring in the State of New York and amounting to upward of $70,000,000. Resting, as our prosperity does, upon the financial welfare of the farmers, there can be no question but that any moneys expended for the improvement of the means of intercourse and the transportation of the 12,000,000 tons of farm produce annually raised in this State will ultimately result in benefit to the whole State."

L. W. Page, director of the United States Office of Public Roads, touched upon the delicate subject of "The Effect of Automobiles on Public Roads." He said:

"The pneumatic tire or any type of tire which propels a vehicle," said Mr. Page, "must have sufficient tractive resistance to overcome the load of the vehicle. This, of necessity, must cause a shear on the road surface which varies with the weight and speed of the vehicle. The broken stone road surface has little power to resist a shearing stress, consequently the fine material of which it is composed is thrown into the air. Once lifted from the road, this fine material is subject to the effect of air currents generated by the car body, and subsequently by the wind. In this manner large quantities of the material of which the road is composed are carried from the road and must eventually be replaced, or the road will rapidly deteriorate. Aside from the dust carried from the road in this manner, this shearing force of the motor car has a decided disintegrating effect on the surface of the road."

Of the two remedial courses at hand, one was that of constructing new roads in such a manner as to reduce to a minimum the formation of dust, and the other, to treat existing roads with materials which will give the same results, he stated. How these will work out in practice he did not attempt to predict.

Other prominent speakers were: F. N. Godfrey, master of the New York State Grange; Senator Jotham P. Allds, of Norwich, chairman of the Joint Legislative Committee; Stephen Ryan, State road director in New York State; A. W. Campbell, deputy minister of public works of the Province of Ontario; James H. McDonald, president of the American Roadmakers' Association; Horatio S. Earle, State highway commissioner of Michigan; Joseph W. Hunter, State highway commissioner of Pennsylvania; A. N. Johnson, State engineer of Illinois; R. D. Beman, deputy State highway commissioner of Pennsylvania; James E. Owen, of the Newark (N. J.) Board of Trade; Robert B. Caverly, president of the Automobile Club of Washington, D. C.; William L. Raeder, president Board of Trade, Wilkes-Barre, Pa.; Charles J. Glidden, of Boston; Horatio S. Earle, State highway commissioner of Pennsylvania; Robert P. Hooper, chairman Good Roads committee, American Automobile Association; Harold Barker, chairman Massachusetts highway commission; J. W. Abbott, ex-United States highway commissioner for the Rocky Mountain and Pacific Coast States; ex-Governor N. J. Bachelder, of New Hampshire, master of the National Grange, and A. R. Pardington, general manager of the Long Island Motor Parkway. The discussion touched on all aspects of the highways problem as it exists to-day.

FOREIGNERS FROWN ON A. A. A.

International Committee Refuses Courtesy of a Hearing—A. C. A.'s Victory Threatens Complications.

What it hailed as a strategic and signal victory for the Automobile Club of America over the American Automobile Association in the fight which the former is making to wrest away the control of automobile racing in the United States, took place at the annual meeting of the committee of the international association of recognized automobile clubs on July 6, at Dieppe, France, when the committee decided to ratify the action of the sporting committee of the Automobile Club of France in threatening disqualification for any French constructor who would take part in this year's Vanderbilt cup race under A. A. A. auspices, unless the Ostend rules are adopted. The committee further decided to recognize only the Automobile Club of America in relation to international racing affairs so far as the United States is concerned.

Although W. K. Vanderbilt and A. G. Batchelder endeavored to appear before the committee to present the statement of the American Automobile Association, they were denied admittance, while Dave Hennen Morris, for the Automobile Club of America was given a hearing. The A. A. A. side of the controversy fell to Count Adalbert Sierstorpff, president of the German Automobile Club, and he set forth that the A. A. A. is the larger and more powerful organization, that its control of American racing is legitimate, and that it had never been properly notified of the adoption of the Ostend rules, which have not been observed in making the plans for the Vanderbilt event.

The committee, however, felt piqued at the A. A. A. disregard of its rules governing international racing events, and after much heated discussion decided that for the present it would recognize only the Automobile Club of America, with whom it has for some years been on terms of reciprocity.

This action may in no small degree be attributed to the very active campaign that the Automobile Club has been making in the foreign press and by personal influence to persuade the racing interests on the other side of its magnified position and importance in the sport, as opposed to the apparent indifference of the Association as to the international situation. That the affiliations of the A. A. A. with the Amateur Athletic Union and through it with the governing bodies of all sports across the water will embarass the association of recognized automobile clubs in its ill-advised action, however, is a certainty, and a subsequent recession from the position it has taken may be looked for.

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LAW BARS IMITATION PRODUCTS

Decisions Stamping Their Sale as Unfair Competition in Trade—Lack of Patent or Trademark Non-Essential.

Closely allied to the patent infringement and price cutting evils which so strongly menace the stability of all trade interests, is the imitation of wares, which constitutes a direct encroachment on the proprietary rights of the original manufacturer, even though no absolute patent or trademark infringement may exist. In many instances where specific protection does not exist the copyist may be held in check by the application of the trade mark law, under the head of "unfair competition,"—a phrase which should carry a broad and clearly defined meaning to every manufacturer and dealer.

A most suggestive case in point is that of the well known manufacturer of ignition apparatus, who found that the reputation of his product was being assailed because of the failure of certain of his specialties to give service for the full length of time which they might with reason be expected to last. After a long and searching examination by the manufacturer's experts, it was discovered that the cause of the trouble was in the wearing parts, which had been replaced by others made in imitation of the original by an unscrupulous manufacturer. The manufacturer believed that such pernicious practices could be stopped, and to the end of stopping them, put the matter in the hands of his attorney for action by law. Instantly the cause of the trouble was removed, by the simple process of calling to the attention of the imitating manufacturer the several decisions covering this point, which the courts had rendered. The offending maker saw the light, and averted a law suit by ceasing the practice of supplying parts which so closely imitated the original.

This case was placed in the hands of T. F. Bourne, 220 Broadway, New York City, whose views concerning the bearing of patents on the price cutting situation, were printed in these columns recently. When seen by a Motor World man early this week Mr. Bourne proved willing to talk of the steps which may be taken in suppressing imitation, under the head of unfair competition. His definition of the phrase which, probably has no specific meaning to many to whom it should be familiar, is as follows:

"'Unfair competition' is a term broadly used to express the doctrine that one person may not so dress up his goods, or the packages containing the same, that dealers may be enabled to palm them off upon the public as and for goods of the original manufacturer, irrespective of any particular trade mark rights that such manufacturer may have. This is very important in many instances, as where a manufacturer has built up a valuable trade without depending upon a trade mark, and the public has become acquainted with his goods by reason of their particular appearance or by the style of package or appearance of the label thereon. If others were permitted to sell their goods having such near resemblance to those of the original manufacturer as to be likely to deceive, a great injury would be done to such manufacturer, as well as to the public.

"The courts are very strict in restraining unfair competition, and to obtain such protection it is not necessary that a manufacturer have a strict technical trade mark for his goods," he continued.

"In the case of Church et al. vs. Russ, 99 Fed Rep., 278, the court held:

"'The underlying principal of each case (unfair trade and technical trade mark) is the same, namely, the prevention of that which in its operation and results, and usually in intention, is a fraud upon the public, and an injury to the rival trader.'

"With respect to a trade mark, irrespective of unfair competition, in Gannett vs. Rupert, 127 Fed. Rep., 962, the court said:

"'It is of no moment that the proof fails to show deception, confusion or injury to any marked extent. Such proof is unnecessary where infringement of a valid trade mark is clearly established.'

"In Consolidated Ice Co. vs. Hygeia Distilled Water Co., 151 Fed. Rep., 10, regarding the infringing trade mark, the court said:

"'It is enough that it is so used as to be likely to produce confusion as to the origin of the article to which it is applied. This sufficed to warrant the granting of an injunction. . . . . '

"I have referred to the trade mark cases above to show the analogy to cases on unfair competition in trade. There are two recent cases showing how far the court has gone in restraining unfair trade, even though the plaintiff had no patent or trade mark.

"A manufacturer of tobacco had for a number of years placed tin tags of peculiar shape, with a dark background and a word thereon, upon tobacco plugs, and had largely advertised the tobacco. Later the defendant put upon the market a cheaper grade of tobacco with plugs of the same size and shape, with tags thereon of the same size, shape, style and colors, the only difference being in the name, which the defendant did not copy, and which name could be distinguished at a short distance. The evidence showed that the simulation was intended, and did in fact deceive customers who intended to buy the plaintiff's tobacco. It was held that the same constituted unfair competition and entitled the complainant to an injunction. In this case the question of technical trade mark was not the point in issue.

"In another case, Yale & Towne vs. Alden, 154 Fed. Rep. 37, a manufacturer of padlocks who made a lock upon which there was no particular patent or trade mark, brought an action to restrain the defendant from selling padlocks in imitation of the appearance of plaintiff's padlock. The court said:

"'A comparison of the exhibits satisfies us beyond any doubt that the defendant had so closely copied the plaintiff's padlock in form, size, coloring, lettering and details of finish that his articles are likely to induce purchasers to buy his padlocks supposing them to be the padlocks of the plaintiff. . . . . The defendant has, with a purpose taken the design and dress of the plaintiff's padlock. He has carefully copied it, differentiating his own from it in minor details probably intending to escape the charge of infringement; but he has gone a step too far when he has produced a padlock which to casual observation is substantially identical in appearance with the plaintiff's. His apparent purpose was to extend his trade with retail dealers and supplant the plaintiff's sales to such dealers by furnishing them with an article which could be sold readily to customers as the article made by the plaintiff."

"The defendant was restrained from thus imitating the style and dress of the plaintiff's goods.

"The foregoing extracts show the dangerous ground to traders who copy the goods of others, whereby to enable the substitution of the copy or simulation for the original product, and where such acts are liable to cause confusion and deception the courts will not hesitate to restrain the same."

Motor Vehicles Multiplying in Saxony.

Statistics covering the use of motor vehicles in Saxony show that their use is increasing at a rate which is nothing short of remarkable. Up to January, 1907, 805 automobiles were registered. At the beginning of this year, returns covering the registrations for last year revealed a total of 1,352. The total number of vehicles including motorcycles, increased from 2,221 to 3,259, comparing the registrations of last year and the year before. Of the total number registered at the beginning of this year, 1,580 were used for technical and business purposes, 302 were employed by physicians, surveyors, etc., and the astonishingly low proportion of 1,182 for purposes of recreation.

New Jersey Registration Large to Date.

Registration figures at the office of J. B. R. Smith, State commissioner of motor vehicles for New Jersey, show that the total registration under the new law to July 1st was 11,400 machines. The revenue received by the State from these registrations was $83,850, which sum, together with all other income derived from the same source, will be used for road maintaining. Up to July 1st of last year, 8,521 machines were registered, the amount received being $41,800. The total registration for the year 1907 was 17,694 machines, bringing in a revenue of $85,694.

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MILLENNIAL JOYS FOR MOTORISTS

International Automobile League Proclaims Message of Bedrock Prices and Universal Convenience.

That sadly misused individual, the "private owner" or "consumer," for whom many pretentious sounding organizations have in the past been promoted, may take heart again despite the failures and "four-flushing" of previous efforts, because a new one has been started upon which he may set his hopes of deliverance from the ogre of "agents' and middlemen's profits." The new movement has its home in Buffalo, N. Y., and bears the impressive name of the International Automobile League (Incorporated, $50,000), which the promoters condense to "the I. A. L."

While just to start with the I. A. L. only pretends to reduce the cost of automobiling to its members by selling them certain brands of tires and accessories at less than the list prices, yet it has much greater things in store for them after it gets going well. Not the least of these is the opportunity which it is going to give them to invest in the stock of the "League's own rubber factory," the construction of which would permit the League to get "tires equal to those now costing $130 for $40; when it will be able to get tires equal to those costing $75 for $25; when the equal of tires now retailing for $45 will be bought for $15, and when an equal will be found for tires now retailing at $15 for $5, and still pay its stockholders handsome dividends."

All that the League needs is 50,000 members who will buy their tires from it. Thus provided with customers the organization could safely "have tire factories of its own for the manufacture of tires exclusively for its members."

But for the immediate present the I. A. L. contents itself with outlining the advantages of the magnificent conception on which it is at work for the benefit of those who join its membership. For the tourist there are grand things in prospect. The booklet which the League is issuing with a view to enlisting interest and eliciting ten dollar bills for memberships, tells about it thus:

"The automobile is becoming more popular every day as a means of touring. Long trips in automobiles are the order of the day now, but one drawback to the average owner is the expense and this is by no means confined entirely to hotel and garage accommodations. The running of the automobile eats up a lot of money itself. It is here again that the plan of the International Automobile League has especial merit. The League proposes to have in every city, town and hamlet in the country, tire houses, supply houses, garages, hotels and gasolene stations where the presentation of the League's membership or identification card or official automobile tag will have the same value as if presented at the houses representing the League in your own city. The line of tire houses, supply houses and garages will, therefore, stretch from coast to coast, so that your I. A. L. tag will be as good in 'Frisco as in New York, as good in New Orleans as in Duluth; as good in Toronto or Montreal, as in Hamilton or Windsor."

As to the potency of the I. A. L. tag, the promoters modestly refrain from intimating that the condition of its being "as good in 'Frisco as in New York," etc., is not a mere futurity but is probably an actuality at the present time.

"Quick additions to the ranks of the I. A. L.," the booklet continues, "will aid much in its further development and in the force of its organization, bringing additional benefits to its members, in that the League will be in a better position to make arrangements for special prices with houses at present outside its influence."

To lend conviction to the printed matter sent out, various pictures are introduced, suggesting the function of the I. A. L. in actual life. On the third page of the booklet is a picture of a doorway from which is emerging an automobile. At the side of the door is a large card, put up in time so that the photographer could get it in conspicuously, proclaiming that special garage service rates are given members of the I. A. L. No other garage sign or indication that the place photographed is really a garage appears in the picture, and no identification is possible from the caption, "One of the I. A. L. garages where special rates are given to members of the league." On the fifth page appears a half-tone of two automobiles on a country road, which is explained by an imaginary colloquy underneath, in which Tourist asks Farmer: "Can you tell me the name of the I. A. L. hotel in the city, please?" To this Farmer, in order to prove to the reader the completeness of the I. A. L. service, replies like a flash: "You will find the names on the I. A. L. signs just down the road." The names of the city or the road are not supplied with the picture.

Similarly in the next illustration, Tourist stops Pedestrian to find out where there is an I. A. L. garage, but Pedestrian dodges by telling tourist to keep on until he finds an I. A. L. sign. Unfortunately the tourist may still be driving vainly over the broad land trying to find either an I. A. L. hotel or garage, as no pictures are shown disclosing him arriving at either the one or the other, or even finding an I. A. L. road sign.

Lest any doubts arise as to there being I. A. L. hotels or supply stations, however, two especially taken photographs are reproduced, one showing the brass nameplate of an hostelry, with a paper "I. A. L." placard pinned below it, and the other in front of an automobile supply store, with an "I. A. L." card tacked below the window, where it will show up well in the picture. The top of the latter illustration is cut off at a point which conceals to some extent the store sign, so that it is impossible to even guess where it is located or the name of the proprietors. The location of the hotel is also in doubt. Nevertheless it appears from the booklet that all I. A. L. members can get special rates by going to these two places.

Most staggering of all is a picture "showing strings of tanks containing gasolene for use of members of the I. A. L." If any doubts existed as to the immensity of the organization, this illustration is calculated to banish them. For as far as the eye can reach there stretches a railway track on both sides of which are enormous Standard Oil tanks. Possession of the contents by the I. A. L. is suggested, but not positively asserted, by a temporary paper sign tacked to a cross bench, which latter was set in the middle of the railroad track when the I A. L. photographer snapped his camera.

An air of confidential importance is given the prospectus by a notice printed on the back, which reads: "If this book is lost, kindly mail it to the address below, as it contains matters of importance only to its owner," following which are blank lines for name and address, which the recipient is supposed to fill in as a provision against the unhappy contingency of his dropping the precious document. The officers of the League are A. C. Bidwell, president; William Preiss, treasurer, and C. H. Bowe, secretary. The organization not only has officers, but it has "League colors" which are proclaimed as being "orange and black." The League yell has not yet developed, but will doubtless come out in due time.

How Pennsylvania Piles up Fines.

Whatever may be charged against the State of New Jersey for the high price it sets upon the pastime of motoring within its borders, there is no question that Pennsylvania law, if properly administered may eclipse it. At least, that is the conclusion at which one James Munyon, Jr., of Cynwyd, arrived after a brief sojourn in the town of Abington. After being there only about 5 minutes, he was arrested for violating the automobile law in no less than five different respects. The resulting fine averaged at the rate of something like $11.05 per minute. The bill which Magistrate Williams framed up for him was as follows:

Breaking speed regulation	$25.00
Running without rear light	10.00
Running on wrong license	10.00
Running without blowing horn at crossings	10.00
Costs in the case	2.60
Total amount	$57.60

Buckbee Heads Club of California.

At a meeting of the Automobile Club of California held recently, the following officers were elected for the ensuing year: President, Samuel G. Buckbee; Vice-President, George A. Newhall; treasurer, C. F. Kohl; secretary, L. E. Burks.

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WHY CITY CHAUFFEURS ESCAPE

Speeders with "Pulls" Develop Invisibility to Discreet Cops—Police Prefer Fines to Transfers.

In the not distant past a chauffeur in the employ of the municipality was arrested while driving at a high rate of speed a city owned automobile containing the official to whose use the car was assigned. The fact of a city employe being arrested for automobile speeding was not, in itself, of more than passing interest, for though the members of the police department usually "fail to see" a swiftly moving automobile if they know that it is the property of the city, the general subject of the arrest of speed mad chauffeurs is so frequently commented on in the daily press that one arrest more or less excites little or no comment from the public.

The arrest of a municipal chauffeur suggests, however, an interesting question, and the answer to it seems to have been given by the police sergeant who refused to "fail to see" the motor car that was going over the public thoroughfare at a speed which threatened the safety of others who were on the highway.

Though the day when the arrest occurred was the Sabbath, the question that was answered bore no relation to the subject as to what kind of "city business" required the city official's attention at a time when the other members of the department with which he was connected were away from their duties, presumably in their respective homes, but it was the question as to whether or not a city official, i. e., a public servant had rights and privileges which are denied the hoi polloi, and the policeman answered "no."

The reckless, devil may care spirit, with which some of the chauffeurs in the employ of the city disregard speed laws and traffic regulations, has been the cause of many accidents that have cost the taxpayers a pretty penny in damage suits, to say nothing of the increased expense because of the wear and tear on the cars. Yet the disregard for the public safety and the contempt for the authority vested in the traffic police is daily exhibited by the city owned automobiles speeding through the streets, claiming the right of way over all things moving, whether vehicles or pedestrians.

When the municipally owned car, in which the official was a passenger, was halted by the policeman, he at once claimed special privilege and asserted that he was on "city business." The plea had no weight with the officer, nor yet with the magistrate on the following morning when the chauffeur was arraigned, charged with driving at the rate of 27 miles an hour. He was held for Special Sessions in $100 bail.

The city chauffeur, whose series of articles on "Motor Cars as Mediums for Municipal Graft" appeared in the columns of the Motor World not long since, made some interesting statements in connection with this subject when interviewed after the aforementioned arrest.

"While I don't know the details of this special case," he said, "I do know that in my own experience it was seldom that I exceeded the speed limit unless ordered specifically to do so. When I say I did not exceed it, I mean that I did not drive at a speed of over 12 or 15 miles an hour, for, though this is somewhat faster than the law allows, it is by no means reckless driving, and I have yet to see the policeman who considered this rate a violation of the law sufficient to justify an arrest. But it was seldom indeed—unless the night was dark and the company congenial—that my superior did not call for faster and faster speed, and despite my protests, insist on the car being driven anywhere between 20 to 30 miles an hour, even in the busy thoroughfares. I used to protest that I would be arrested. 'Never mind,' he would answer, 'if you're arrested I'll get you out, and maybe he would have done so. I have never doubted but that he'll pay any fine that may be imposed, yet the payment of the fine is not the only thing.

"I don't want the notoriety; I don't want my name in the daily papers; but most of all, I don't want the police department's record of chauffeurs to show against my name or registration number a statement of arrest for speeding. Once arrested and that record will be kept for future reference, and a law abiding individual who may sometimes forget for the moment that he is going too fast, and become a prisoner, will have to suffer, not alone for this, which is really his first offense, but for the other times when he was compelled to speed, by his superior, against his wishes, his judgment and his outspoken protests.

"Last September I read a copy of a letter sent out by the police commissioner to the different department heads, requesting that they keep the speed of their automobiles within the legal limit. I knew that at the time of sending out this letter, the police commissioner sent also an order to his department to make no exceptions in the matter of city machines, but to treat every one, official or private citizen, in the same way; that night I was ordered to 'hit it up' as usual, so I told the inspector of the letter and order, he replied that he had read the former and was not interested in the latter; go ahead.'

"I opened the throttle and let her go. While speeding along I passed one or two policemen who, seeing the department sign on the car, merely turned away, not 'seeing' how fast I was going. Later that night, when I was alone, I met one of the officers whom I knew and asked him why I had not been held up.

"'Well, I'll tell you,' he said. 'The fellow that got your boss his job has got a pull; your boss has got a pull, and if he gets down on me then both of them will use that pull to get me transferred, or something equally disagreeable. Now all of us policemen look at it, that the easiest way is the best way, and we don't see you; that's better than taking chances of getting in trouble. But there's one bad feature in this, too, for if the sergeant sees us let you get past, it means a complaint, but between you and me, I'd rather take a complaint and fine at headquarters than take chances of getting the fellows with a pull after me.'

"And there's the whole thing in a nutshell, the police officers fear results if they antagonize office holders and so they wink at violations of the law when executives with a pull are concerned.

"I might state, in conclusion, that the only city automobiles which are justified in exceeding the speed rules are those of the fire department, and occasionally those of the police department, and to the credit of the latter it must be said that it is seldom one sees a speeding automobile with the letters P. D., N. Y. displayed, unless the machine is being used for the purpose of overtaking some one whom the police desire to apprehend."

New Features of Bay State Law.

Among the several novel provisions of the new Massachusetts automobile law, which will become effective on Sunday next, 12th inst., are one or two which are sufficiently noteworthy to bear comment despite the fact that they were reviewed at the time of the enactment. One of them permits the highway commissions to collect a fee of $2 in addition to the cost of the license for the examination of an applicant. This provision will bear hardest on professional chauffeurs, as they are conpelled to pass an examination in order to secure a license.

Another change from the old law provides that "Wherever on any bridge or way, public or private, there is not an unobstructed view of the road for at least 100 yards, the driver of every vehicle shall keep his vehicle on the right of the middle of the traveled part of the bridge or way, whenever it is safe and practicable so to do." The penalty is a fine of $20 and liability in an action commenced within 12 months of the violation."

Canada Prefers American Cars.

That Canada looks to the "States" for its chief source of motor car supply, despite the enterprise of various Canadian manufacturers and foreign car importers enjoying preferential duties, is evidenced by the registrations in the various provinces. Figures for the period between January first and June first in the province of Ontario are illustrative. Of the total of 205 cars registered in the period, 125 were of American manufacture, not counting fifteen cars the names of which were not supplied, but which were obviously not all non-American.

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SCAVENGING WITH THE EXHAUST

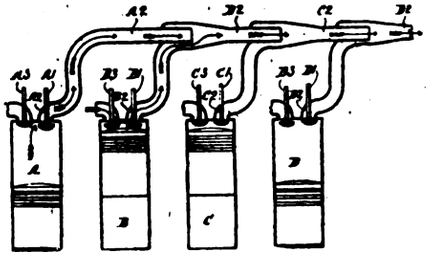
New and Simple System Adapting the Ejector Principle—Applicable to Either Two or Four Cycle Motors.

Considering the existing universal recognition of the need of effective scavenging of the cylinder of the gas engine, it is somewhat surprising that inventors are not more ready to develop methods of improving the performance of their products by establishing systems of this nature. Of the methods of scavenging which have thus far been proposed, nearly all depend upon an undue amount of mechanical complication. A system has recently been designed in England, however, in which no such complication exists, the clearing of the cylinders of a multi-cylinder motor being effected by the simple expedient of utilizing the exhaust pressure from one cylinder, to clear another by a simple adaptation of the ejector principle.

The system in question is the invention of Messrs. D. Stewart & Co., Ltd., and K. J. McMullen, of London Road Iron Works, Glasgow, N. B. As will be seen from the illustration, the exhaust manifold is so contrived that each exhaust is discharged through a jet, into a relatively small chamber in such a way as to establish the desired ejector effect, while the valve mechanism is similar to that of the ordinary motor except for one important particular, which is to say, the use of a plain, air valve, mechanically operated, and designed to relieve the vacuum created by the ejectors, by admitting air into and through the cylinders. The system, it is to be observed, is applicable to motors of either the two or four-cycle types.

The cycle of action is as follows: As shown in the illustration, cylinder, A, is at the beginning of its exhaust stroke the exhaust valve, A1, being open to permit the discharge of the products of combustion into the "ejector-inductor," A2. Simultaneously, cylinder B, is nearing the end of its stroke, and the effect of the discharge from the nozzle A2 is to create a sharp draught through B, pure air for the purpose, being supplied by the valve, B3, and the discharge occurring through the regular exhaust valve of that cylinder, B1. During the progress of this action, the explosion stroke is just commencing in cylinder, C, and the suction stroke has just been completed in cylinder D. A similar scavenging effect is secured in each of the other cylinders in proper rotation and by the same means.

It will be seen that this system contemplates no alteration of the ordinary working of the motor, whether of the two or four cycle type, the only alterations involved in its use being the insertion of the extra, pure air valve in the cylinder head, and the adoption of the nozzle construction of the exhaust manifold. The cleaning action is induced in each of the cylinders just at the termination of the exhaust stroke, and merely serves to assist the discharge of the spent products of combustion, which thus are replaced with pure air. In consequence, the cylinders are cooled appreciably, the strength of the new charge is sensibly in-



creased by the elimination of the foul remnants of the old charge, and the succeeding impulse obtained is in proportionately cleaner and more rapid action. Although it is not generally recognized, it is true that a successful scavenging cycle, were it attainable without undue mechanical complication, would vastly improve the performance of the average motor.

Blow Torch Minus Pump and Valve.

Both for the road and the shop a good blow torch is frequently an indispensable tool, and many efforts have been made to produce a torch that was at once light and compact, while being simple and efficient. Of these the latest is the "Imp," which has recently been brought out by the Frank Mossberg Co.,of Attleboro, Mass.

The device is entirely automatic in its action, having no pumps or valves, which must be manipulated for its proper oper-



ation. A series of corrugations or "wrinkles" in the neck, as shown in the illustration, increases the heating surface to such an extent that the flame of a match easily generates enough gas to start the torch, after which the peculiar design of the mixing tube makes further attention unnecessary. With four ounces of gasolene the "Imp" will give a powerful, steady, clean blue Bunsen flame for over two hours. The value of such a flame in certain classes of repair work cannot well be over-estimated.

PROBLEMS OE THE GAS TURBINE

Difficulties They Present and Results of Efforts to Meet Them—Dugald Clerk Reviews the Progress Made.

In connection with the rapid commercialization of the steam turbine in the installation of large power plants, the old question as to the possibility of arriving at a proper solution of the problems attending the development of the gas turbine of the internal combustion type is constantly arising. It is only two or three years since Dugald Clerk, the eminent British gas engine expert, declared that from the present standpoint, the gas turbine must be regarded as a practical impossibility. That some of these difficulties are being overcome, and the practicability of this type of motor growing in prospect, is almost a certain consequence of the great amount of energy which is being devoted to it.

The two chief difficulties which have beset the path of the gas turbine designer hitherto are those arising from the exceedingly high temperatures engendered by burning the gas under compression, and the high speeds necessary between the moving elements in order to secure a proper working efficiency when the gases are being cooled by expansion. In fact these two obstacles alone, are by many engineers considered sufficient in themselves to block the ultimate development of the gas turbine to a point of commercial utility. "The inventor is thus between two horns of a dilemma," says the Electrical Review, in this connection.

"If by expansion he cools his gases to a point where they can be applied satisfactorily for driving the moving parts, they attain speeds far too high for efficient utilization; if, on the other hand, he seeks to reduce the speed by successive expansions of the gases, he obtains in the first stages of this process temperatures too high. One solution of this problem is to lower the temperature of the gases by mixing with them other cooler gases, thus securing a stream of working fluid of greater mass, but lower temperature. In this way both the excessively high temperatures and excessively high velocities may be avoided, but, of course, with a sacrifice in efficiency as stated by the laws of thermo-dynamics.

"One who had aided much in the experimental development of the gas department was M. R. Armengaud, who, before his death, had constructed turbines of this type with outputs up to 300 horsepower. In these the principle just alluded to, of admitting cooler gases to the products of combustion, was utilized. Since his death the work has been carried on by Mr. Alfred Barbezat. The difficulty of finding a material to resist the high temperature reached in the combustion chamber and

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the erosive action of the hot gases in their passage through the expanding nozzle has been met partially by the use of carborundum. The chamber and the nozzle are lined with this material, and it is backed with a soft packing of asbestos to allow for expansion. When the turbine is in operation this lining becomes sufficiently hot to ignite the fuel as it is forced into the chamber.

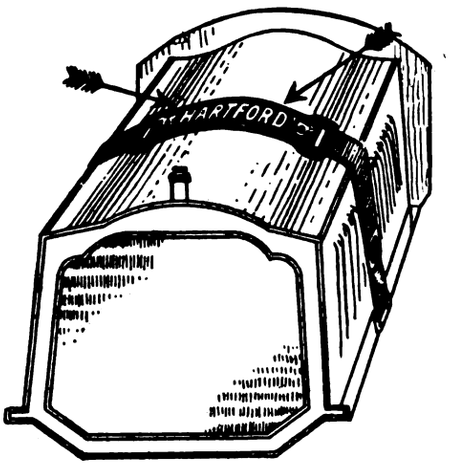
"Another problem met in this work was to secure an efficient supply of compressed air. Since the burning of the fuel in the combustion chamber produces a high pressure, both it and the necessary air must be forced into this chamber against this pressure. When a liquid fuel is employed there is not much difficulty, but it is more troublesome to supply the necessary air, and when an excess of air is used in order to lower the temperature of the issuing gases, additional work is thrown upon the compressor. The compressor now in use is of the multiple turbine type designed by Rateau, it being thought that, since in a turbine the object was to get away from reciprocating mechanisms, the use of a reciprocating air compressor would be absurd, as a complete turbine unit should consist of rotary mechanisms only. . . . .

"The efficiency obtained by the latest machines, which were rated at about 300 horsepower, is said, by Mr. Barbezat, to be not so high as that of reciprocating gas engines. It is to be regretted that he could not give definite figures; but these are promised later. This statement has no reflection upon the gas turbine and merely indicates its present stage of development. Better results may be expected, and some of the losses now taking place will be avoided. It is interesting to note one method at present adopted for this purpose. It has been found necessary to cool, by means of water jackets, the combustion chamber and the expansion nozzle and perhaps other portions of the turbine. The water thus heated is forced into the combustion chamber, where it is converted into steam, with a consequent lowering of the temperature of the driving gases, and thus lightening the work of the air-compressor, which otherwise would be required to supply a much larger volume of air.

"Perhaps one of the greatest drawbacks to this type of prime mover is, what may be called by analogy, its low power-factor. This is due to the necessity for an air compressor which absorbs about half the total power of the turbine proper. That is to say, a gas turbine with an output of 300 horsepower actually develops about 600, 300 of which is necessary to drive the compressor. This 300 horsepower, utilized by the compressor is not, of course, lost. It is merely negative work in the compressor and positive work in the turbine. It represents, as it were, 50 per cent. of the total power of the turbine circulating between it and the compressor, neglecting, of course, losses; and consequently the turbine itself has but half the rating it would have were not this condition present."

Anti-Rattling Device for the Hood.

No one characteristic of the advancement which has been made in automobile development is more pronounced than the elimination of noise. In the not distant past the progress of a motor car was marked by much the same discordant sounds that still are associated with trolley cars to which the former added the noise of an unbridled exhaust. But, so far as automobiles are concerned, the rattle of machinery is



largely disappearing. With many machines, however, the rattling of the hood still is a source of annoyance, which it has been found difficult to overcome. A novel method of overcoming this objectionable noise is found in the Hartford Hood Anti-Rattlers, a simple little device made by the Hartford Rubber Works Co., Hartford, Conn.

This latest comer in the accessory field is nothing more or less than a strip of flexible rubber about a foot in length, a couple of inches in width, and perhaps a quarter of an inch in thickness; adapted to be placed over the hood, and slotted at either end to receive the usual hood strap. When the anti rattler is placed over the center of the hood and the retaining straps drawn tight and buckled firmly, the rubber strip is stretched slightly and through its elasticity, thestraps are kept in constant tension. The hood thus is held in place and with the rubber takingup the vibration, the noise is deadened and wear and tear due to the usual vibration, practically eliminated.

Having a Proper Place for Everything.

Nowhere does the old maxim of "have a place for everything and have everything in its place," better apply than to drivers of automobiles. Tools should be kept by themselves in receptacles that will not permit of their rattling together. Oil cans should be clean on the outside and away from everything else; spare tubes should be so placed that they will suffer no damage from coming in contact with hard substances or grease of any description, and spare parts, such as valves, nuts and cotter pins, should not be thrown together, but kept separately in a small box or drawer in which they may be placed in partitioned spaces, where they readily may be found, and until needed will be safe from injury.

Selecting the Suitable Spark Plug.

In the selection of a suitable spark plug, motorists should bear in mind that the physical construction of the motor plays an important part in relation to the plug's efficiency when in the cylinder. The distance between the explosion chamber and the outside of the cylinder is a factor which has to be considered in the proper selection of a plug, for unless the sparking points are so arranged that they are even with or slightly beyond the pocket so as to project into the cylinder, the spark plug opening forms a recess in which spent gas may accumulate and delay the force of the explosion owing to the fact of the spark occuring at a point where the fresh charge is not in contact with the points. Of course, the greatest care also should be exercised to select a plug no part of which can possibly come in contact with the piston.

Importance of "Lining up" on the Car.

Too much stress cannot be put upon the subject of the importance of a proper "lining up" of the power plant and transmission of a car. If the action or sound of the mechanism denotes that there is something amiss, unless the trouble is located elsewhere it always is well to look to the general alignment of parts. If an owner cannot attend to this matter himself or if his chauffeur cannot, it is advisable to have an inspection made by some one who is competent to make it, and it is far better to lay up a car that is out of line until the evil can be remedied than to continue to use it to the probabble destruction of many of its component parts.

Periodical Inspection of the Underpan.

Cars which are equipped with metallic under-pans for protecting the mechanism should be subjected to rigid, periodical inspection in the parts so concealed and not readily accessible from above. The pan prevents loose and projecting bolts or other parts from being seen, and furthermore, requires the occasional cleaning which this ensures. Incidentally if the pan happens to be loose or broken, the fault will be revealed.

While "racing" the engine just prior to cutting out the spark permits of starting again under compression, thereby saving some slight labor to the driver, the practice is a pernicious one. The wear and tear on various parts of an engine that is being run in this way, at high speed and with no load, is considerable and while the practice is a common one, indulgence in it is not a sign of a cautious driver.

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DISCLAIMS POLICE AUTHORITY

Commissioner Smith of New Jersey Explains His Limitations—Local Authorities Must Police Their Roads.

That the Department of Motor Vehicles of the State of New Jersey is powerless to prevent the speeding of automobiles by doing police duty, is the latest pronouncement of Commissioner J. B. R. Smith. In response to a complaint sent to him by the Freeholders of the Mercer county board, to the effect that the excessive speeding of the machines was damaging the roads of the county, and requesting the department to intervene, the Commissioner responded to this effect, stating that the policing function must be performed by the local authorities.

"I beg to assure you that the department has suppressed and will continue, to the extent of its ability and within the scope of the powers vested in it by law to suppress the abuses attending the uses of motor vehicles," says Commissioner Smith. "Your committee, however, seems to have overlooked the fact that the law places the burden of policing the roads upon the municipal and county authorities. Our State does not undertake to preserve the peace of the different localities except, of course, in those special cases where the aid of the militia becomes necessary; and while the limited number of inspectors (there being only ten paid inspectors for the whole State) appointed under the motor vehicle law are vested with the power to arrest for motor vehicle violation, their duties, primarily, are to advise and to co-operate with the local police establishments and county officers, for the purpose of securing uniformity of action, to investigate complaints of violations of the law made to the department and report their findings for the purpose of determining whether licenses should be revoked; and to investigate with reference to the compliance with the law regarding the carrying of identification marks and certificates.

"Of course it would be absurd to assume that a statute which provides for only ten persons for the whole State vested with the power of arrest, should direct that they should be charged with the entire duty of enforcing the speed regulations pertaining to motor vehicles.

"We are without power, however, even if we desired to do so, to usurp the functions of the county and municipal authorities."

Identification Marks for Jersey Cars.

Identification marks for automobiles registered in New Jersey, to differentiate those carrying unexpired licenses under the old law and those registered under the amended statute, have been provided by J. B. R Smith, State Motor Vehicle Commissioner. The commissioner says that all cars whose registrations expire before December 31 shall carry the metallic elliptical disc containing the certificate of the department regarding the manufacturer's number affxed to any marker which was legal at the time the amendments to the law became effective. Those whose registrations will expire on December 31 or later shall carry the blue marker with the official seal, containing the manufacturer's number of the car affixed. This course is in keeping with the provisions of the new law and all motor vehicle owners failing to carry one or the other of these official identification marks will be liable to a fine.

Jersey Magistrate Reverses Himself.

Refusing to accept the uncorroborated statements of a lone constable who alleged that Leonard Paulson, of Summit, N. J., had operated a motor car at a speed greater than 20 miles an hour, Justice Woodruff, of New Providence, discharged the defendant after the latter had brought forward, as witnesses, the occupants of the car, who testified that the machine was equipped with a speedometer and that at the time in question the instrument recorded but 15 miles an hour. Incidentally the justice reversed his own decision in the case, rendered at the time of the arrest, when he found the prisoner guilty and imposed a fine. Paulson promptly refused to pay, and demanded a trial, with the above result. He also contended that one man could not properly take any reasonably accurate measurement of the time and this contention was given weight by the justice.

Automobiles for Military Baggage Train.

When the Fifth Regiment, National Guard of New Jersey, goes into camp at Sea Girt on July 25th a new departure will be made in the transportation of the baggage to the encampment. Automobiles will be employed and the camp orders issued announce that the vehicles will leave Paterson, Passaic, Englewood, Hackensack, Leonia and Rutherford at stated times on the morning of July 25. As they will run on schedule time, the baggage must be ready for transportation at the armories when the motor cars arrive. Two enlisted men will be permitted to accompany each company's baggage.

United in the Good Roads Cause.

Teamsters have joined forces with the automobilists in Minneapolis to secure road improvement. The Minneapolis Teamsters' Union and the Minneapolis Automobile Club have decided to go into politics to secure good highways. The plan is to work and vote only for aldermanic candidates who will pledge their aid to the good roads cause. Theodore Wirth, superintendent of the Minneapolis parks, has been elected the first honorary member of the automobile club and it is expected that his official position will enable him to give material aid to the movement.

BAY STATE ROAD EXPERIMENTS

Trying Processes for Making Highways Durable and Dustless — Interesting Work Begun at Cape Cod.

Massachusetts is prolific in experiments in the direction of preserving roads and abating the dust evil. In the city of Marlboro two contracts have been made with concerns making coal tar preparations, one firm applying the tar after heating it and the other applying it while cold. The stone road is first swept, then a thin tar is sprinkled on and brushed into the surface, after which the sweepings are put back to form the wearing surface.

Another experiment is about to be made by the highway commission in the town of Hamilton. Contracts have been awarded for building a dustless stretch of road. It is planned to tear up a stretch of much traveled highway and to build it over again from the bottom to the top. The bottom course will be laid, as in an ordinary macadam road, of stone crushed to the proper size, which will be rolled down hard. On top of this a layer of stone that has been treated with tar will be laid to a depth of two inches. This will be spread and then rolled solid, the top to be sprinkled with a thin layer of tar. It is not planned to build a tar concrete road, but rather a stone road with enough tar to bind the material together and assure a smooth, hard and dustless surface.

Still another experiment is about to be made by the commission on Cape Cod, where there is no stone to speak of, so that the road must be constructed entirely of sand. A heavy grade of Texas crude oil, containing a large percentage of asphalt, will be used with the sand. The sand road will first be shaped with a road machine, and heated oil will be spread over the surface. A second lot of oil will be sprinkled on when the first coat has been on for two weeks. The surface will then be cut up with a disc harrow so as to mix the sand and oil to a depth of four inches. After this has been done the road will be rolled and the surface sprinkled with a thin layer of sand to absorb the surface oil.

A little work of this sort was done under the highway commission's supervision about two years ago, which has resulted so satisfactorily that the State road officials have decided to adopt the plan for roads on Cape Cod, where there is no material with which to construct stone roads. The stretch treated in this manner two years ago has withstood wear better than had been expected and the treatment resulted in a good, firm roadway.

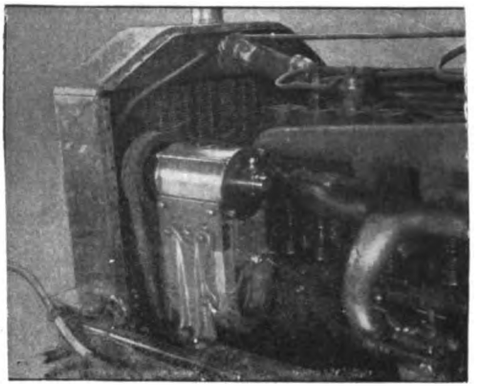
"The A B C of Electricity." Price, 50c. The Motor World Publishing Co., 154 Nassau Street, New York City.

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New Magneto Adapted to Fords.

Because of the danger of obtaining an injurious combination of windings in magneto and coil, owners who contemplate installing a device of the former type on cars which are not primarily designed for its use, should be extremely cautious about making the investment. In case the windings of the magneto armature and those of the coil are out of proportion to one another—which is perhaps the simplest way of expressing non-technically a condition which is apt to provoke irregular running and expensive upkeep—no little trouble is likely to ensue. In this connection, owners of Ford runabouts who incline to the use of the magneto are provided with an equipment especially designed for the purpose, in the new "Model F," K-W magneto, which the K-W Ignition Co., Cleveland, O., produces along with eight other types of magneto, not to mention several other varieties of ignition specialties.

Not simply is this apparatus designed to "balance" the windings of the coil regularly installed in the Ford cars, so that its performance will be non-injurious to the original equipment, but it also is contrived in such a way mechanically, that it may be readily attached to the frame of the machine, and driven by means of a belt, from



the fly wheel. The bracket upon which it is mounted is regularly furnished with it. A special non-stretchable belt also may be obtained for driving purposes, at a slight advance in the price. The manufacturers guarantee the magneto to start the engine easily without the use of the batteries, and claim in addition, that because of the hot spark which it develops it will run the engine faster and better, and with better fuel economy, than as a general thing, would be possible with the battery equipment alone.

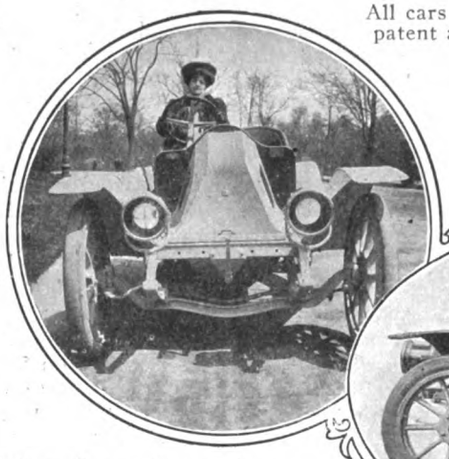
Anti-Scale Compound for Cooling System.

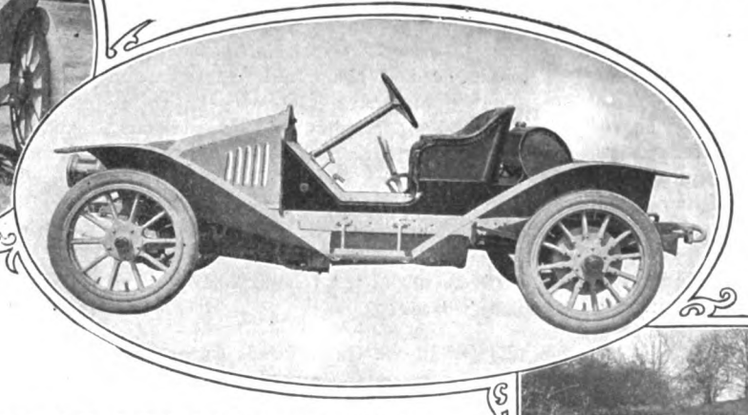
Like boiler compounds for preventing scaling, preparations intended either to prevent or remove deposits of foreign matter and scale from the interior of the cooling system of the automobile are likely to furnish an ample field for the activities of the purveyors of motorist's supplies for some little time to come. Quite the latest of these is a British innovation, known as "Evaporine," which is mingled with the water in certan fixed proportions, and in the course of time tends to remove all incrustations of an injurious nature. Needless to say, the careful motorist will find it a matter of economy to use only pure water in the radiator, in which case, as there is little or no deposit, no such compound is at all necessary.

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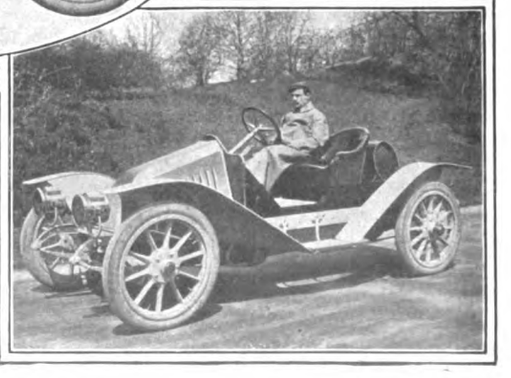
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The Week's Patents.

885,960. Vehicle Wheel Rim. Edwin C. Shaw, Akron, Ohio, assignor to B. F. Goodrich Company, Akron, Ohio, a Corporation of Ohio. Filed Feb. 20, 1907. Serial No. 358,463.

1. A vehicle wheel rim comprising a channel iron carrying one permanent tire flange, a removable split ring carrying an opposing tire flange, downwardly extending lugs upon the split ring, near its terminals, slots in said channel-iron adapted to receive the said lugs, a lip or lug extending upwardly from the channel-iron, and a key adapted to pass through said upwardly extending lip and through mutually registering grooves in the contacting surfaces of the ring terminals.

885,986. Transmission Gear for Motor Vehicles. Leonard H. Dyer, New York, N. Y. Filed Jan. 22, 1906. Serial No. 297,116.

1. In a transmission gear for automobiles, the combination of a driving member, a driven member, a driving gear for the former, a plurality of intermediate gears, including a reversing gear, and means, including mechanism shiftable as an entirety, for driving said driven member through any one of said intermediate gears.

886,016. Automobile Radiator. Charles Schmidt, Cleveland, Ohio, assignor to The Peerless Motor Car Company, Cleveland, Ohio, a Corporation of West Virginia. Filed Nov. 18, 1907. Serial No. 402,637.

1. In an automobile radiator, the combination of an upper tank having outlets through its bottom near its sides, a lower tank having inlets through it top near its sides, side members secured to said two tanks inside of said inlet and outlet openings, rows of horizontal tubes extending between and passing through said side members and secured thereto, return bend plates secured to said side members and covering a plurality of rows of tubes, and cover plates secured to the bottom of the upper tank and to the top of the lower tank outside of said openings therein, and secured at its side edges to said side members.

886,019. Rim for Motor Car Wheels. Don C. Smith and William F. Gorton, Muncie, Ind. Filed Oct. 10, 1906. Serial No. 338,214.

1. The combination with a wheel having a rigidly secured felly rim thereon, of a tire-retaining rim comprising oppositely disposed annular rings having in-turned flanges ta their outer edges, this vertical facing being provided with a rabbeted joint having the seat thereof beveled, the vertical line of jointure of the facing edges of the rings being to one side of a line central between the flanges, there being transverse apertures provided in the rings and having bolts therein whereby the members many be secured togethere, the inner surface of the tire-retaining rim being machined to fit the felly rim, and transverse apertures being provided at intervals at the line of jointure of the tire-retaining rim and the felly rim and having bolts therein whereby the tire-retaining rim, in assembled form, may be secured to the wheel, substantially as described.

886,098, Motor Vehicle. William W. Wainwright, Connersville, Ind. Filed Mar. 7, 1907. Serial No. 361,089.

1. In a motor vehicle, the combination of a hollow steering axle structure, a pair of live shafts mounted in said structure and connected at their inner ends by a compensating gear also mounted within the structure, a driving pinion structure journaled within the hollow axle-structure and meshing with the compensating gear, a frame yoke pivotally mounted exteriorly upon the axle-structure on an axis at right angles to the axis of the axle-structure, a driving shaft journaled in said yoke, a pinion meshing with the driving pinion structure, the axle structure having a substantially horizontal opening permitting the engagement of the driving shaft pinion with the driving pinion structure, and means for swinging said axle structure in the yoke upon the pivotal connection therebetween.

886,103. Hydrocarbon Burner. Rollin H. White, Cleveland, Ohio, assignor to The White Sewing Machine Company, Cleveland, Ohio, a Corporation of Ohio. Filed Feb. 24, 1903. Serial No. 144,557.

1. The combination of a main burner having a mixing tube, a casing above the main burner and inclosing the combustion chamber, a sub-burner which extends up through the main burner, a vaporizer removably supported within said combustion chamber and extending over the sub-burner and over a part of the main burner, and a support for said vaporizer within the combustion chamber, with a feed pipe, a valve casing secured to said feed pipe, a vaporizer feed pipe which extends through a hole in the wall of the combustion chamber and separably connects the vaporizer with said valve casing, a valveless pipe connected with the discharge end of the vaporizer and extended out through the same hole in the wall of the combustion chamber and terminating in a nozzle which discharges into said mixing tube, and an independent feed pipe for said sub-burner, substantially as specified.

886,191. Variable Speed Power Transmission Device. David M. Dearing, Jackson, Mich. Filed Feb. 15, 1906, Serial No. 301,282. Renewed April 1, 1907. Serial No. 365,856.

1. A transmission gearing, including a driving shaft, a driven shaft arranged at substantially right angles to the driving shaft, a beveled frictional wheel having a bevel pinion fixed to the driven shaft, and a beveled friction wheel having a bevel pinion fixed to the driving shaft adapted to successively engage with the wheel and pinion carried by the driven shaft.

886,225. Current Distributing Device for Igniting Explosive Engines. Henri de la Valette, Paris, France. Filed May 8, 1906. Serial No. 315,769.

1. A high tension current distributing device, comprising a plate of insulating material, a lid of insulating material on the plate, a revolving disc of insulating material located between the plate and the lid, contact pieces arranged in a circle in the plate, a contact ring located in the lid, and a brush located within the revolving disc, adapted to ride on one side on the said contact pieces and on the other side on the said contact ring.

886,265. Rapid Fire Carburetter. James A. Speed, Los Angeles, Cal., assignor to Speed Manufacturing Company, Los Angeles, Cal., a Corporation of California. Filed April 25, 1907. Serial No. 370,324.

1. In a carburetter, a strangling tube, means for spraying gasolene into the strangling tube comprising a nozzle in the tube, a valve at the upper end of the nozzle, an upper stem on said valve, a lower stem on said valve projecting into said nozzle, a guide in the nozzle in which the lower stem slides, means for admitting air to the strangling tube to combine with the spray of gasolene, auxiliary means for admitting a fur-

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ther supply of air to the mixture after it has left the strangling tube, and mechanism having an engagement with said upper valve stem and with said auxiliary means for simultaneously operating the auxiliary means and valve.

886,353. Air Pump. Orris J. Darling, Detroit, Mich. Filed April 8, 1907. Serial No. 367,133.

1. In an air pump, a cylinder open at its lower end and provided with means to fit over an opening, a double acting piston, a hollow rod to said piston, a check valve in said rod, and means on the rod controling the introduction of air thereunto, substantially as shown and described.

886,429. Vehicle Spring. Frederick R. Skidmore, Milwaukee, Wis. Filed Feb. 10, 1906. Serial No. 300,415.

1. A vehicle spring comprising bell cranks in pivotal connection with the vehicle, an axle carried by one pair of the bell crank arms, and a pair of air controlled pistons in independent opposition to each of the other pair of bell crank arms in opposite directions.

886,501. Shock Absorber. George L. Harvey, Chicago, Ill., assignor to Harvey Friction Spring Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 2, 1905. Serial No. 289,993.

1. A shock absorber comprising a spring loop having its ends respectively in operative relation to the relatively movable members, and a non-rotative co-operating member embraced by said loop and in frictional contact therewith.

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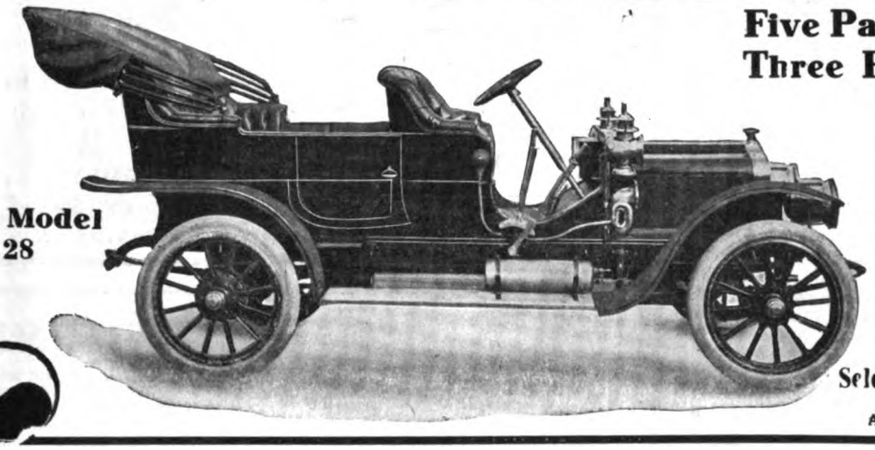
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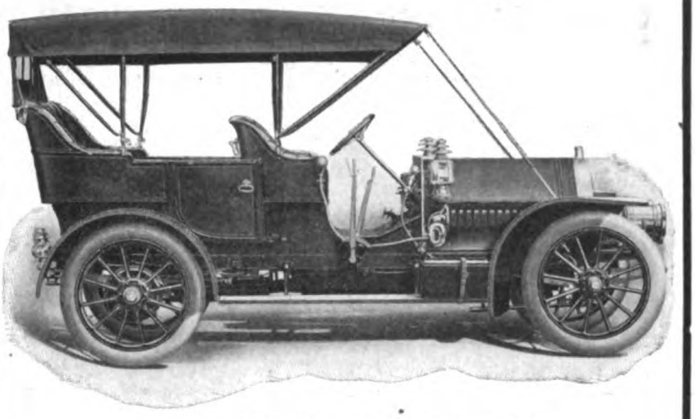
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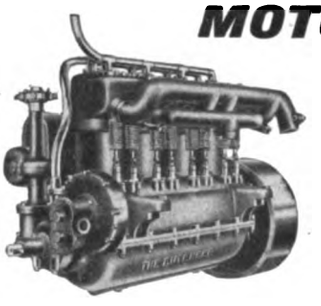
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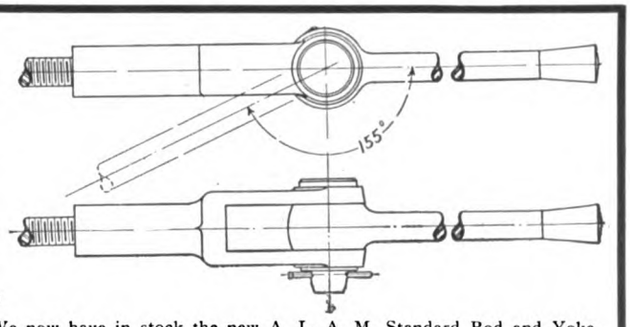
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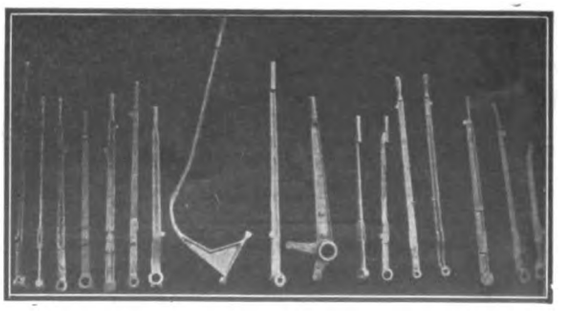
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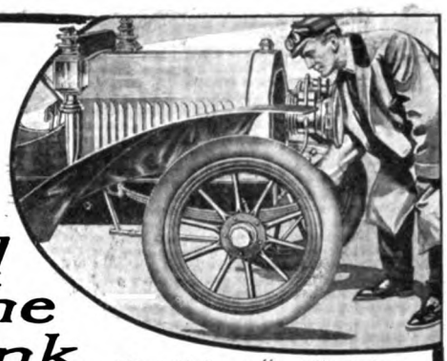
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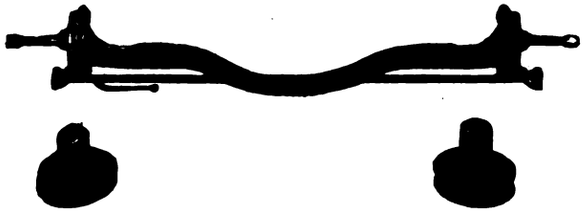


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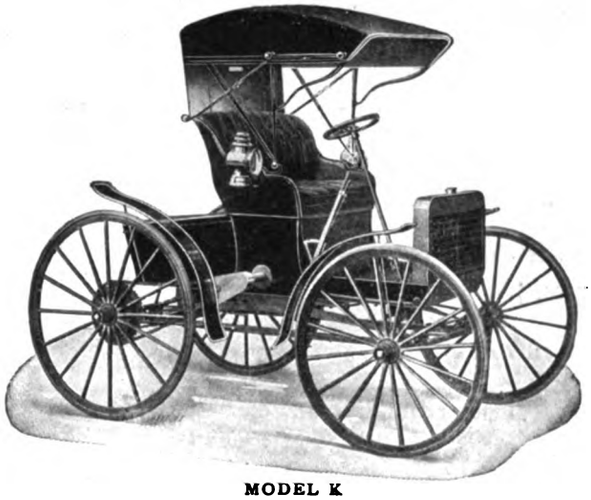
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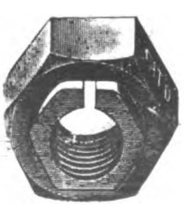
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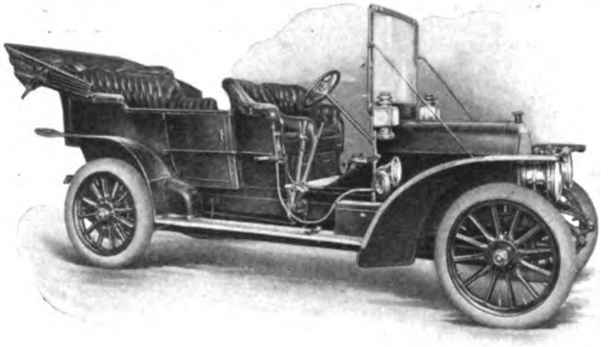
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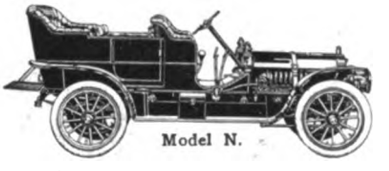
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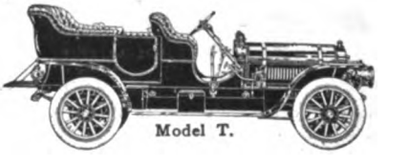
Model K - 4 cyl., 4⅞ x 5
$3,500

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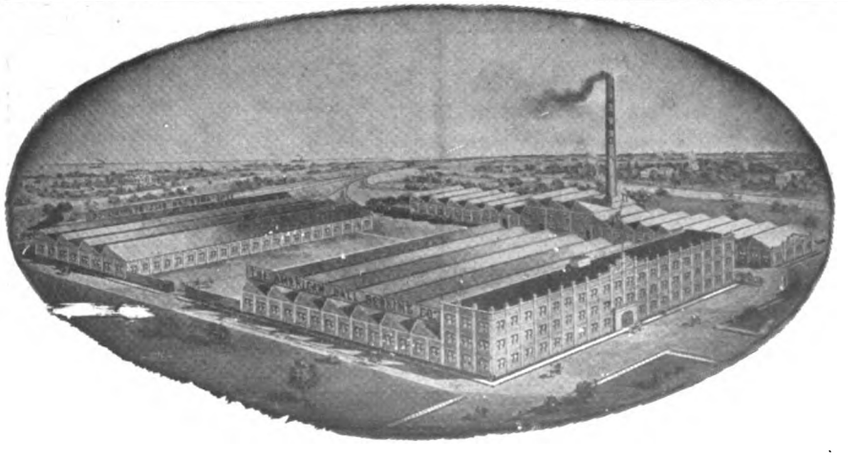


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1909 FOUR-CYLINDER

Stevens-Duryea

MODEL X

In bringing out this new model we do not in any way retract any claims that we have made for the six-cylinder car which we are firmly convinced is the highest type of automobile construction. In response to a demand for a larger and roomier car than our twenty horsepower four-cylinder Model R, and more moderate in price than our Light Six, we have produced the Model X. This model supplies a demand for a four-cylinder car a little larger and more powerful than the Model R, which has been discontinued. The owner of the Model X can feel that the well-known features of the Model R are embodied in his car, together with the advantages of more room and power. In brief, the Model X is an enlargement and refinement of the Model R, representing the most advanced ideas in automobile designs, together with Stevens-Duryea construction and workmanship, which have been proven absolutely correct.

The Unit Power Plant
AND
Three-Point Support

This construction, which has made the name "Stevens-Duryea" synonymous with motor car efficiency, is retained. Stevens-Duryea cars were built on correct principles in the beginning, and at no time have any radical changes been made in their design.

4¾-INCH BORE.
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TIRES, 34 x 4 INCHES.
WEIGHT, 2,650 POUNDS.

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1 x ⅜ x 9-16—1 x ½ x ⅝—1 x ½ x 9-16 roller	$1.00 per foot.
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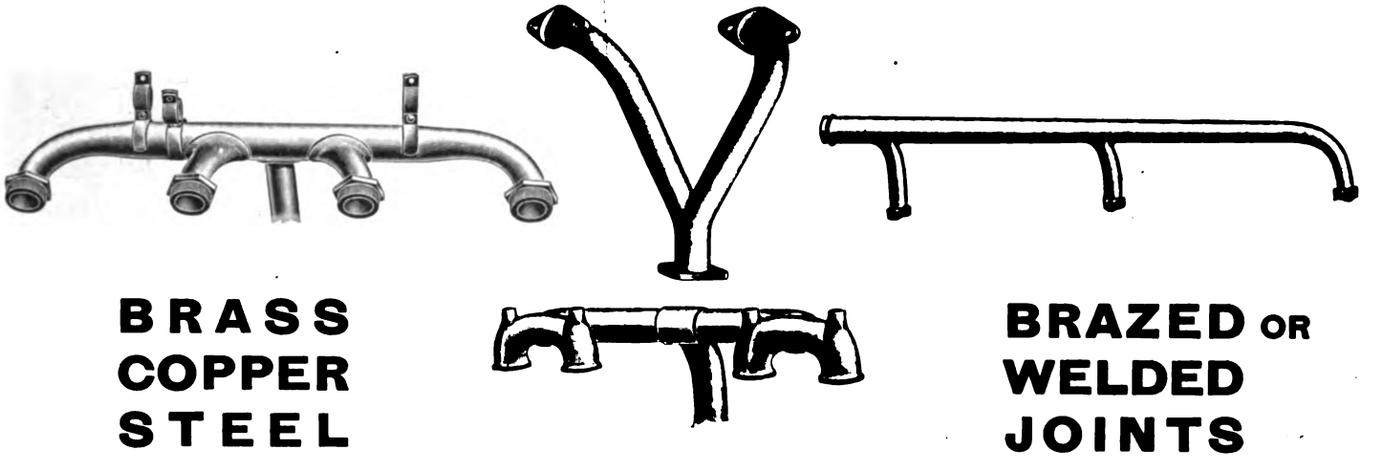
makes them cost a great deal more to build than any other tire, but it makes them the most economical tires for the user.

Every part of the Firestone Tire is made of the very best material for its purpose—by the most expert workmen—and in the most improved manner known to the tire building science.

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After all is said
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no matter how
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tire makers,
the only thing you have
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is
the word
of the dealer who
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If the tire
goes bad
you have the privilege
of carrying on
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with the factory—
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The tire maker
makes good—or doesn't
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There's one exception—
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THE STEPNEY
Spare Motor Wheel

ON AND GONE IN LESS THAN A MINUTE



Punctures and other tire troubles have no terrors for the motorist whose car is equipped with the **STEPNEY WHEEL.** If a tire goes wrong it is only the work of a moment to attach the **STEPNEY WHEEL** and be off again with no further delay.

Isn't it worth having, for the peace of mind alone that it brings?

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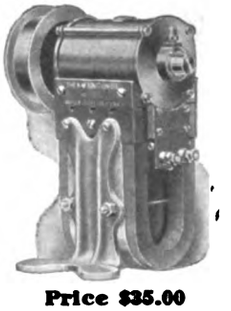
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Model F

Has bracket as shown for attaching to frame of car. Made especially

For Ford Runabouts

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High in Quality—Low in Cost
Perfectly Reliable—Easy to Apply
More Power—Less Fuel

Price $35.00

It starts the engine easily without batteries and runs it faster and better than any battery because it gives a hotter spark. They run in ball bearings and have no moving wires or brushes to give trouble and wear out. They are made to last and they do last. They are the cheapest that is good and there is nothing better at any price.

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The "Maxwell"

Challenges the Glidden Tour Winner for an Endurance Run from New York to San Francisco

THE WHY—We have been enthusiastic supporters of the Glidden Tour. In the first one our $1450 car tied the winner, a $3000 car. In the second, a Maxwell won the Deming Trophy. Again, a Maxwell runabout was the only one of all pilot cars to complete the tour. One identical Maxwell competed in every Glidden Tour and is still running as good as ever. We competed in these Tours

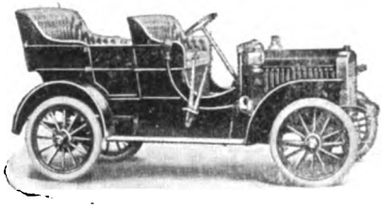
BECAUSE they gave a chance to show publicly that Maxwell cars are superior in many ways to high-priced automobiles.

INFLUENCED by a spirit of trade jealousy of the Maxwell and its many triumphs over them, the Glidden-Tour Rules have been so modified as to let the high-priced cars down easy if they lose.

HOW RIDICULOUS to expect us to enter a contest in which the losing high-priced car can minimize or excuse defeat by pointing to a schedule which made its running time 30 to 45 minutes faster a day.

IT IS

Not an experiment
Not an assembled car
Not a slavish copy of foreign design



BUT

A genuine American
For American roads and American touring conditions

The Maxwell Challenger—Model D, 4-Cylinder—24-30 H. P.—Price $1750

Three-point suspension, multiple-disc clutch, unit construction, thermo-syphon cooling are original in the Maxwell
All others who use them pay the Maxwell the sincere compliment of imitation.

10,116 MAXWELL OWNERS testify that they have as good a car at $825, $1450, or $1750 as they would possess had they paid at least twice the Maxwell's price.

WE ARE WILLING TO PROVE IT hence we challenge the winner of the Glidden Tour to an endurance run from New York to San Francisco, under Glidden Tour Rules of 1907, which put us on equal terms with the highest-priced and most powerful touring cars made. Winner to dispose of $5000 purse.

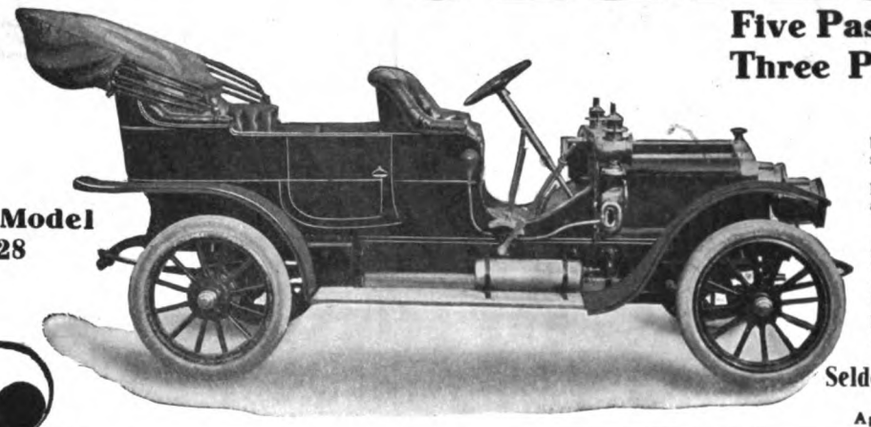
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Model 28

Five Passenger Touring Car $2000
Three Passenger Runabout $2000

F. O. B. FACTORY

4 Cylinders, 30 H. P., 109″ wheel base, metal body, pressed steel frame, beveled gear drive, three speeds selective.

A great hill climber, smooth running, ample power, light weight, well-made, fine finish and already known as the "Silent Selden" because it runs so noiselessly.

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Selden Motor Vehicle Company, Rochester, N.Y.
Members A. L. A. M.
Agencies Wanted in Unoccupied Territory.

THE OLDSMOBILE

is not only the **World's Best Car,** but one of its oldest and most famous. It gives prestige to both owners and agents.

Model M	Model MR	Model Z
Touring Car, Fully Equipped,	"Flying Roadster," Fully Equipped,	6-Cylinder, 130-inch Wheel Base,
$2,750	$2,750	$4,200

OLDS MOTOR WORKS, Lansing, Mich., U. S. A.
Members A. L. A. M.

Canadian Trade supplied from Oldsmobile Co. of Canada, Toronto, Ontario.

TRENTON RUBBER MANUFAOTURING OOMPANY'S

THERMOID Brake Lining

WILL BE ON MOST CARS IN 1909—WHY? ASK THOSE WHO HAVE TESTED IT

DRAIN or GULLY

Whether or not you are warned by signal that you are approaching a drain or gully—be warned that

WEED CHAINS

are necessary when you are negotiating in mud or sand—and on wet, slippery streets. They grip and hold the wheels to the road. They positively prevent skidding or slipping on greasy and wet pavements. They preserve tires and enable the heaviest automobile to climb hills easily. They prevent lost traction and reduce gasolene consumption.

Fit any standard tires; are readily attached and detached.
Write for Bulletin.

WEED CHAIN TIRE GRIP CO., 35 Moore Street, New York

IF YOU ARE INTERESTED IN **MOTORCYCLES**

The Bicycling World and Motorcycle Review

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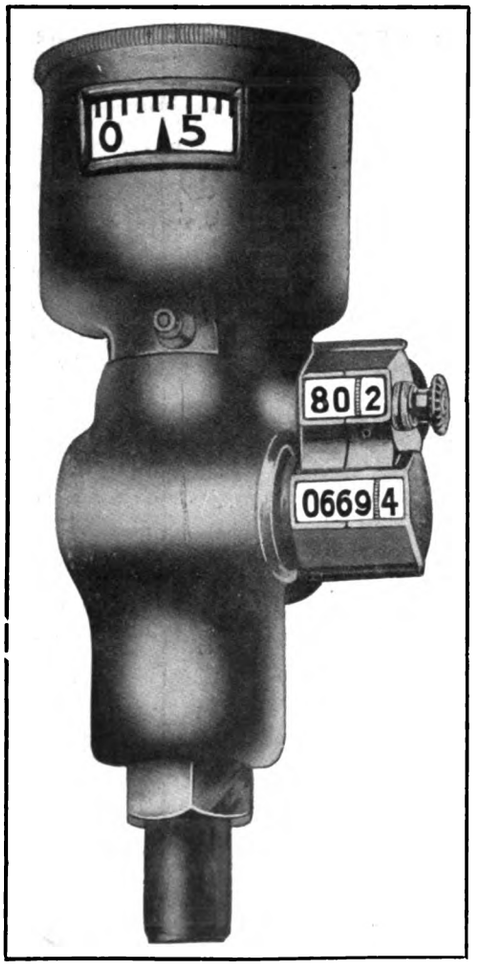
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Glidden Tour An Auto-Meter Parade

It was a walk-over. The men who put their best efforts into making cars for this big event knew what speed indicator to buy—for every Warner used in this event was purchased and we can show the official order.

This big Warner percentage is a mighty potent fact. The 1908 Glidden Tour was a manufacturers' battle-ground—a struggle for blood. Every firm put out its best product and its best driver. None but the best of accessories were considered for a moment. Not a detail was overlooked that could in the least contribute to the possible winning of the famous trophy. No manufacturer who is out to make a record—amid company he dare not think of despising—would make the fatal mistake of using an accessory that is liable to fall down on him. He will scrutinize. He will investigate. He will rigidly try out everything that goes to make up his equipment. Naturally he is going to use that which proves to be the best.



A Warner Walk-over

57 Entrants
36 of them Warner-equipped
63 PER CENT. OF THE WHOLE

When manufacturers will turn down instruments that have been offered to them as gifts and pay out their good coin for Warner Auto-Meters, there must be something in it when we say that we make the only speed indicator on earth. This proves the supremacy of the Magnetic Principle—for manufacturers are discerning men.

That which is good enough for the Glidden Tour entrants is surely good enough for you.

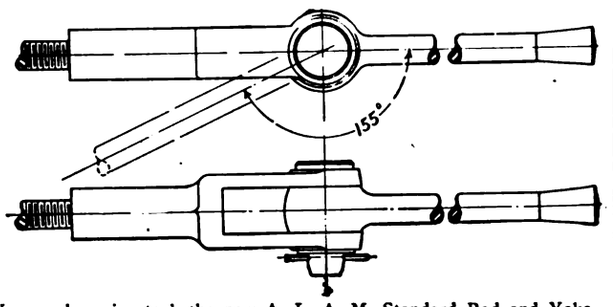
And you don't have to pay out one cent to try one of them, either. We'll put an Auto-Meter on any car on earth for a 30 day trial—no deposit—no agreement. Nothing but your promise to give the Auto-Meter a fair trial.

Write us to-day and ask us to send you one. Just tell us the make, year and model of your car with size of wheels and tires. You'll get one by express prepaid. If it doesn't suit you, return it at our expense. There will be no argument.

Warner Instrument Co., 217 Wheeler Ave., Beloit, Wisconsin

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A. L. A. M.



We now have in stock the new A. L. A. M. Standard Rod and Yoke Ends, both the adjustable and plain patterns, either blanks or milled. Send for new circular with full particulars.

THE BILLINGS & SPENCER CO., Hartford, Conn.

ALUM-ALOYD SHEETS

For Automobile Bodies, Dashes, Guards, Bonnets, Battery Boxes, Drip Pans, Mufflers, Etc.

STRONG—DURABLE
SCALELESS—RUSTLESS
SMOOTH—PAINT ADHERES FIRMLY

A Metal That's A Time and Money Saver

THE STARK ROLLING MILL COMPANY, CANTON, OHIO

"RAJAH" SPARK PLUGS

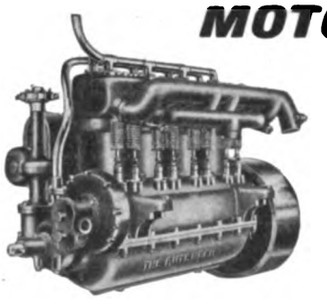
IGNITION ABSOLUTELY SURE

RAJAH AUTO SUPPLY COMPANY

BLOOMFIELD, NEW JERSEY, U. S. A.

(Watsessing Station, D., L. & W. R. R.)

MOTOR MAKERS



Indeed we are. We are still making motors for some of the most successful cars upon the market. Quality before price and both right.

Model "W" 1909
4 x 4, 25 h. p.

This motor is fully equipped with self contained oiling system, Magneto attachment, Fan and Carburetor. The same high grade material and workmanship that distinguishes our manufactured products will be found in this motor.

Prices reasonable. Write for catalog and full information.

THE WESTERN MOTOR CO., Logansport, Ind.

Manufacturers of "Rutenber" Motors, "Rutenber" Carburetors, and Supplies. Light Soft Gray Iron, Brass and Aluminum Castings.



"Nothing Finer the World Over."

Hotel Pontchartrain

Cadillac Sq., Cor Woodward Ave.
DETROIT, MICH.
Absolutely Fireproof.

Combines more up-to-date features than any other hotel in the country. Appeals particularly to tourists and travelers.

Conducted on European Plan. Unsurpassed Cuisine—Excellent Service.

RATES: $2 Per Day and Upwards.

PONTCHARTRAIN HOTEL CO., Props.

GEORGE H. WOOLEY, W. J. CHITTENDEN, JR., } Managers.



Supplementary Spiral Springs

Provide SPRING INSURANCE and SPRING COMFORT.

Shocks, jolts and jars are injurious alike to man and cars. They can be prevented by the use of Supplementary Spiral Springs, one of the simplest, most effective and inexpensive devices ever produced. Can be readily attached to any car. Thousands in use, and their users consider themselves among the "wise ones."

Let us send you our interesting booklet, and ask your dealer about them.

SUPPLEMENTARY SPIRAL SPRING CO.,
4555 Delmar Avenue, St. Louis, Mo.
New York Branch—Removed to Motor Mart Building (Larger Quarters)

ADDRESSES—Chicago, 1712 Michigan Ave.; Boston, 889 Boylston St.; Los Angeles, 512 So. Broadway; San Francisco, 424-446 Stanyan St.

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Is Always of One Quality, THE BEST



If you want a cable with LOW FIRST COST you will be wasting time and postage by writing to us. If, however, you want a cable that is ABSOLUTELY GUARANTEED to be RELIABLE AND PERMANENT you cannot afford to overlook our product.

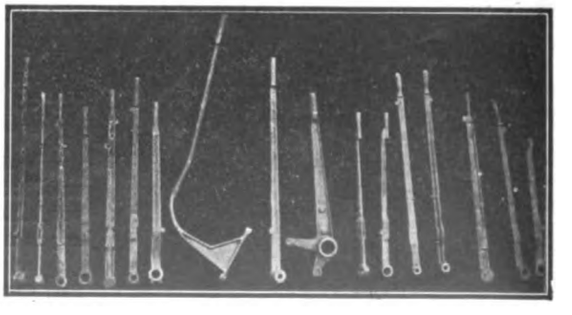
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PARSONS' MANGANESE BRONZE LEVER CASTINGS



Sole Makers

THE WILLIAM CRAMP & SONS SHIP & ENGINE BUILDING COMPANY, - Philadelphia, Penna.

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You *Can* Afford the $2000 Mitchell

—Afford to *buy* it because it is moderate in price.

We know you can afford to *keep* it, because we have many letters from users of Mitchell, testifying from actual daily experience, that it is the most economical car to *operate*. Before *you* buy a car, send for these letters and try a Mitchell in a 50 or 100-mile road test.

In demonstration, you'll notice not only that its style, finish and construction is equal to that of the extravagantly high priced cars, but that its *performance is too.*

Proof is easy, Mr. Business Man.

The Mitchell Agent will be glad to take you out at any time you say. Just call him up—no obligation on your part.

Try the $2000 Touring Car—the $2800 Limousine—the $1250 Roadster or the $1000 Runabout.

Get demonstrations of high priced cars and compare the Mitchell with them.

Call up the Mitchell Agent today and just say



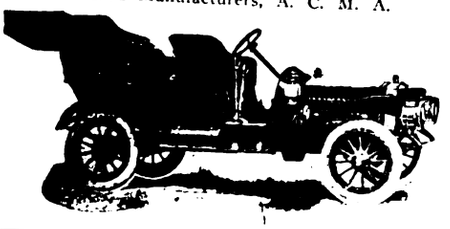
"*Show Me*"

The Mitchell Touring Car shown below is 35 H. P.—4-cylinder—speed, 50 miles—finish, Mitchell blue—price, $2000.

Write for Catalogue No. 18, describing the other Mitchell models.

Mitchell Motor Car Co., 284 Mitchell Street, Racine, Wis.

Standard Manufacturers, A. C. M. A.



THE INCOMPARABLE WHITE

THE CAR FOR SERVICE



Write for White Bulletin No. 15

The above illustration is reproduced from the new White Bulletin No. 15, an attractive little booklet devoted to some of the more important automobile events of the last few months. The leading articles are "The New Road Record Between San Francisco and Los Angeles," "The Fort George Hill Climb," "The Quaker City Reliability Contest" and "The Harrisburg Reliability Contest." In addition to these four detailed accounts of White victories, brief space is given to the numerous minor contests in which the White has carried off first honors; also, the activities of private owners of White cars and the doings of "Government White Steamers" in this and other countries receive attention. We believe that you will find this booklet of interest.

A POSTAL TO US BRINGS A COPY

THE WHITE COMPANY

CLEVELAND, OHIO

PITTSBURG, 138-48 Beatty St.
SAN FRANCISCO, 1460 Market St.
NEW YORK CITY, Broadway at 62d St.
PHILADELPHIA, 629-33 N. Broad St.
ATLANTA, 120-122 Marietta St.
CLEVELAND, 407 Rockwell Ave.
BOSTON, 320 Newbury St.
CHICAGO, 240 Michigan Ave.

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SOLARCLIPSE
LAMPS

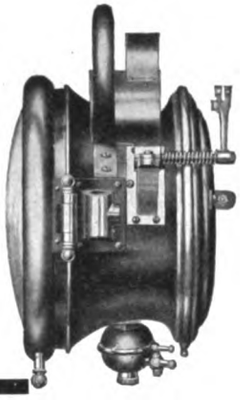
TWO DISTINCT FIELDS OF LIGHT

The last and final move forward toward perfecting a lamp for automobile use—the

SOLARCLIPSE

scientifically solves the lighting problem. These lamps illuminate the road with two distinct fields of light; one long and one short distance ray.

The Automatic Self-Eclipsing mechanism which operates from the dash through means of a lever makes it possible to cut out the long distance ray at will. The long distance ray projected by Solarclipse Lamps penetrates the darkness for one thousand feet ahead. The short distance ray is thrown directly in front of the car.



Complete description of the Solarclipse Lamp and Besnard System of Lighting in our 1908 catalogue. Sent free upon request.

BADGER BRASS MFG. COMPANY
606 Lyman Avenue, KENOSHA, WIS

THE BEST BATTERY
IS THE
WITHERBEE

It is used and recommended by practically all the leading manufacturers and dealers. This fact in itself is an acknowledgment that there is no better storage battery to be had. From the standpoint of material, design and workmanship—it is impossible to construct a better battery. On any car the Witherbee means perfect, efficient ignition, reliable at all times, under any conditions.

If desired Agents and Branches of this Company will fulfill any requirements of manufacturers, dealers and owners

Wico Inspection Lamp, Wico Charging Device, Wico Ring and Roller Timer, Volta Magneto, Witherbee Batteries, Wico Ignition Wire

WITHERBEE IGNITER CO.
Makers of the famous Witherbee Battery
1876 Broadway, NEW YORK

CHICAGO
1429 Michigan Ave.

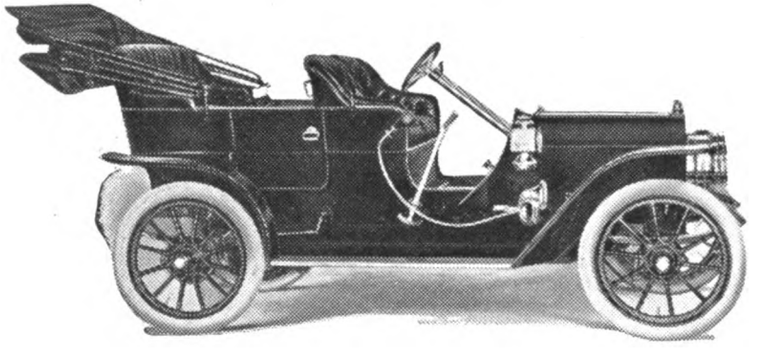
DETROIT
220 Jefferson Ave.

BUFFALO
720 Main St.

BALTIMORE OFFICE:
604 Continental Trust Bldg.



OAKLAND



Model B Touring Car, price $1,350.00. Full equipment, including two gas lamps, two side oil lamps, one tail lamp, generators, horn, tools, jack, pump and batteries. Top, $75.00 extra. Runabout, $1,300.

¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

¶ The live agent will find in the Oakland a car that appeals to a large and intelligent class of purchasers and that will justify the fullest confidence.

¶ Correspondence invited.

OAKLAND MOTOR CAR CO., Pontiac, Mich.

J. B. ECCLESTON, Sales Manager, 53 Franklin St., Buffalo, N. Y.

The Mercedes Wins Grand Prix with
BOSCH



MAGNETO

Lautenschlager, driving a Mercedes, won the 1908 Grand Prix. Time, 6 hours 55 minutes and 43 seconds. Average speed 69.24 miles the hour. The first eight cars to cross the line were equipped with Bosch Magnetos.

EVERY GRAND PRIX RACE HAS BEEN WON WITH THE BOSCH SYSTEM OF IGNITION

In the Prince Henry Contest (Germany), the first ten winning cars were equipped with Bosch Magnetos.

In the New York to Paris Race the Thomas Flyer, America's representative and leader, as well as the other two contestants, are equipped with Bosch Magnetos.

Place your order now for 1909 and be assured of prompt delivery. The Bosch Magneto is universally recognized as standard and should be on EVERY car.

BOSCH MAGNETO CO., 160 West 56th Street, New York

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It is the uniformly satisfactory manner in which Morgan & Wright Tires stand up under any kind of service, from a Glidden Tour to a trip "downtown" and back, that makes them the ideal equipment for the motorist who uses his car under a variety of conditions.

Here's the way they stood up under one test—a 50-mile race—at Los Angeles, Cal.:

"The Model 'G' Cadillac entered by us in the fifty-mile race at Agricultural Park, on May 30th, was equipped with Morgan & Wright tires, and made a most creditable showing in this race. These tires showed very little wear as a result of their fifty miles hard usage in the race, and after the race were still good for several thousand miles of ordinary service, notwithstanding that they had been used some sixty-seven miles on the car in the try-out. In fact, the remarkably good service they gave was one of the features of the 'race meet,' and, of course, contributed most materially to the success of the car.

"We are also pleased to state that your tires made equally as good a record on the Cadillac in the one hundred-mile race the following day.

"Yours very truly,
"LEE MOTOR CAR CO.,
"D. M. Lee, Mgr."

Every Morgan & Wright Tire has that same ability to give troubleless service, whether it is used in racing, touring or city driving.

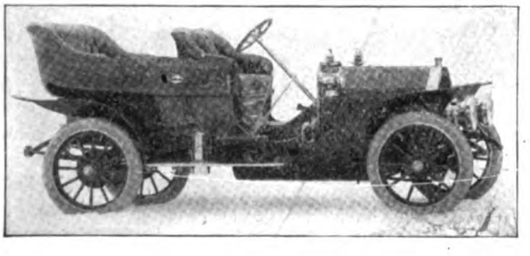
That ability will be at your service if you specify them on your car.

MORGAN & WRIGHT, Detroit

Branches, Agencies or Dealers Everywhere

THE REASONS WHY

The manufacturers of high grade automobiles equip their best cars with **Timken Roller Bearings and Axles** are—that the principle on which



BUICK MODEL 5—Winner of Indianapolis Automobile Trade Association Sealed Bonnet Contest. Equipped complete with TIMKEN ROLLER BEARINGS AND AXLES.

TIMKEN ROLLER BEARINGS

are built, is the only one by which the friction loss is reduced to one-quarter of one percent or less—that provides the maximum bearing capacity in a smaller diameter than any other type and that takes up loss through wear without changing its characteristics.

Timken Principle and Timken Quality

are in consequence, the accepted standards of efficiency in anti-friction bearings.

Comparative tests under actual service conditions will prove that a lightly built car equipped with

TIMKEN ROLLER BEARINGS AND AXLES

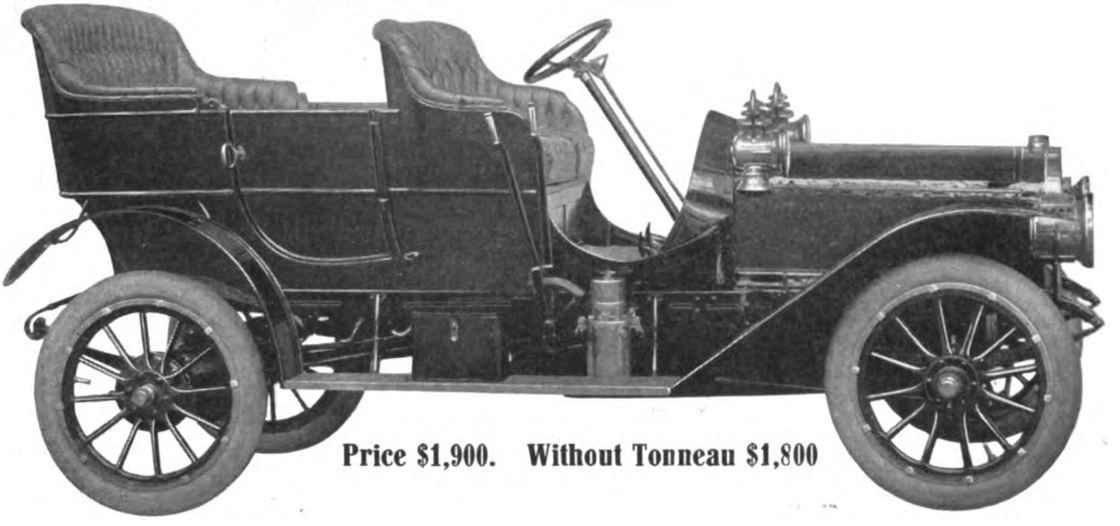
has greater endurance and stress resisting qualities than mere weight and strength of metal can give it. Descriptive literature and special information gladly supplied.

The Timken Roller Bearing Axle Company, Canton, Ohio

Branches: 10 East 31st Street, New York 429 Wabash Avenue, Chicago

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Rambler
Model 248



Price $1,900. Without Tonneau $1,800

DEALERS!

An Unusual Car at an Unusual Price

Write today for our special proposition on this Model 248.

Four cylinders, full 30 horsepower, Timken roller bearing transmission, transmission gears made of special steel, floating type rear axle, full elliptic rear springs.

It's a complete five-passsenger touring car with tonneau, 108-inch wheel base, 34-inch wheels and 4-inch tires. Quiet, powerful, flexible, handsome. You cannot buy another car of such size, power, efficiency, reliability, appearance and comfort for anywhere near the same price.

Do you care to know more about Model 248?

Please write for full particulars to-day! Or send us a postal, giving your name and address, and we will send the facts at once.

THOMAS B. JEFFERY & COMPANY, Main Office and Factory. **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, July 16, 1908. No. 16

STUDEBAKER PLANS BUGGY TYPE

High Wheel Motor Vehicles to be Built for Farmers' Trade—Chassis Order Has Been Placed.

Having become convinced of the growing demand for the buggyabout type of automobile, the Studebaker interests of South Bend, Ind., have set in motion a part of their vast selling machinery to arrange for the marketing of a new production along this line, which is shortly to make its appearance. Arrangements for the manufacture of the vehicles have but recently been completed, but already an order for a large number of the chassis has been placed with the Speed Changing Pulley, of Indianapolis, Ind.

While the order that has already been placed is in a sense only a preliminary, its size may be appreciated when it is known that it was a factor in influencing the removal of the Speed Changing Pulley Co. to Anderson, Ind., this fall, from which town it received ten acres of ground and $75,000 for the erection of a new plant.

That so prominent a concern as the big wagon makers should join the ranks of the builders of the high wheel machine is significant of the growing popularity of this type of vehicle, and is therefore of considerable interest to the trade. The venture into the buggyabout field was only taken after a careful sounding of the market through the agencies of an enormous vehicle business closely in touch with the agricultural communities.

Woods Will Make "Woodsmobiles."

Walter A. Woods has resigned his position as treasurer and general manager of the Cleveland Motor Car Co., to head a new concern with a capitalization of $300,000 and which will be known as the Walter A. Woods Manufacturing Co. Its product will be a car called the "Woodsmobile," which will be made in Milwaukee. The chassis will in many respects resemble the 1908 Cleveland, for which Woods was largely responsible. It will have the Continental motor, four cylinders, 5 by 5 inches, selective transmission with four speeds forward and reverse, an improved multiple disc clutch and a number of detail refinements. The price complete with top, glass front, lamps, and full equipment, has been set at $3,500.

A six story building on "automobile row" in New York City has been engaged for salesroom, garage, stock room and repair shop, which it is expected will be opened about the first of September. Meanwhile the temporary offices are in the Miller building, 1931 Broadway, New York City.

Building Plant at Anderson.

The Speed Changing Pulley Co. has broken ground on a ten acre plot at Anderson, Ind., for a new factory which is to be of iron and brick construction. Work has been started on three large buildings and others will be added as occasion requires. The machine shop, half of which will be two stories high, will be 550 feet long, while the building which will contain the power plant for the foundry and blacksmith shop, and the carburetter manufacturing department, will be 310 feet long and 40 feet wide. The third building will be an office and store room. President E. S. De Tamble says that the new plant will be ready for occupancy about the first of September.

Sheriff Seizes Earl Motor Car.

Seizure by the sheriff of all the visible assets of the Earl Motor Car Co., of Kenosha, Wis., which is said to have made about 100 cars this year, has temporarily put a halt on its activities. The action was taken on a $90 claim filed by the Automatic Screw Co., of Cincinnati, O. The company was promoted by Charles Rohde, of Milwaukee, and a reorganization is now being planned, with capital from Escanaba, Mich., to assist. Thomas H. Booth, of Chicago, who has been actively engaged in the management, has retired but will retain his stock.

HARRIMAN A MOTOR CAR MAKER

Backs Million Dollar Company to Build Gasolene Railway Cars—Utilizes Union Pacific Experience.

E. H. Harriman has launched into the field of "automobile" railway cars and is backing a million dollar company in Omaha to manufacture gasolene cars for railroad and other use. The new company, organized under New Jersey laws, which is to be known as the McKeen Motor Car Co., is built up on the work done experimentally by the Union Pacific Railroad in devising gasolene suburban cars for its lines. W. R. McKeen was the superintendent of motive power and machinery at the time the experiments were undertaken and it is he who will head the separate enterprise as president and general manager, having resigned his place with the Union Pacific. All the patents under which the company will operate and which McKeen took out while employed by the Union Pacific, have been assigned to E. H. Harriman, who will look after the financial end.

Acting under instructions from Harriman, president of the Union Pacific Railroad Co., McKeen two years ago began to experiment with gasolene motors to propel passenger cars. The first car had a 50 horsepower motor and it was soon seen more power was needed. No. 1, with its light engine is still doing business and every car which has been built by the Union Pacific has been a revenue producer. Car No. 2 was then built with a 100 horsepower motor and it did good service, but the cars were crowded so heavily and a trailer was needed for baggage and express that it was decided advisable to put in a 200 horsepower engine. That is the size now in use and being installed in the new cars which are being built. These cars have been sent to all parts of the United States. Their greatest value lies in the small fuel charge and they can be operated with fewer men than a reg-

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ular train, while doing the work of the latter as satisfactorily as steam.

Motor cars are not the only products which will be turned out by the company. A gasolene locomotive for switching purposes around private plants, will also be built. Railroads may no longer switch cars around a private manufacturing plant free of charge, and the plant cannot afford to pay the switching charge. To fill the want, a gasolene locomotive will be built, which will be able to handle cars around a plant.

"The company will build gasolene motor cars for the commercial world at large and we will begin building additional cars at once at Omaha," said McKeen, when asked where the new motor car shops were to be located. "We have now at the Omaha shops 41 cars completed or under construction and the first business of the new company will be to complete the cars now partially built. The arrangements for the enlargement of the shops to provide facilities for the future construction of these cars on a large scale are not crystalized, but at present the cars will be built in Omaha.

"The demand for these motor cars is large and could not be met when the shops were operated as a part of the Union Pacific shops. We cannot confine the usage of this wonderfully economical means of transportation to one road, and consequently a separate corporation has been formed to manufacture these cars upon a large scale."

Diamond Lands a Big Marsh Rim Order.

One of the first large contracts for 1909 accessories has been written by the Diamon Rubber Co., of Akron, O., for the equipment of 2,500 Chalmers-Detroit cars with Marsh quick-acting rims. According to the Diamond Rubber Co. this is the largest single order for quick acting rims ever given. The sale of the rims has doubled in 1908 over 1907, and indications point to a further large increase for the coming 1909 season.

Garwood Gets a Motor Plant.

Garwood, N. J., is to have a motor manufacturing concern in the Hicks Manufacturing Company, which begins operations this week. Albert B. Craft, of Cranford, N. J., is the agent for the concern, and associated with him are Henry E. Hicks, of Plainfield, and William B. Elliott, of Westfield.

Coil Makers Expand Their Factory.

The Jacobson-Brandow Co., of Pittsfield, Mass., which recently entered the field of spark coil and accessory manufacture, is extending its factory facilities. New quarters have been taken in the Gamewell block on Columbus avenue.

Haynes Has Settled on One Model.

Only one model will be made by the Haynes Automobile Co., of Kokomo, Ind., for the 1909 season. The concentration will be effected on a car which will sell at $3,000.

The Week's Incorporations.

Little Rock, Ark.—Little Rock Auto Co.; capital stock increased from $10,000 to $20,000.

New York City, N. Y.—New York Coach and Auto Lamp Co.; capital stock increased from $5,000 to $20,000.

Orange, Conn.—West Haven Motor Co.; certificate of dissolution filed by F. A. Watrous and E. T. Hazlehurst.

Spencerville, O.—Spencerville-Lima Auto Transit Co., under Ohio laws, with $10,000 capital. Corporators—A. D. Adkins and others.

Salt Lake City, Utah—Knight Carriage and Automobile Co., under Utah laws, with $50,000 capital. Corporators—John A. Knight, John M. Knight, William A. Knight.

Chicago, Ill.—Universal Automobile Appliance Co., under Illinois laws, with $20,000 capital; to manufacture and deal in automomobiles and appliances. Corporators—C. Anred, R. P. Bates, William H. Enrich.

Moline, Ill.—Velie Motor Vehicle Co., under Illinois laws, with $10,000 capital; to manufactur and deal in motor vehicles, gasolene, electric or steam. Corporators—Willard L. Velie, Otis E. Mauser, Stuart Harper.

Jersey City, N. J.—Safety Electric Operating Co., under New Jersey laws, with $500,000 capital; to manufacture, operate, buy and sell motor vehicles. Corporators—H. W. Andrews, G. E. Osborne, Charles D. Montague.

Chicago, Ill.—Bell Speedometer Co., under Illinois laws, with $50,000 capital; to manufacture speedometers and other automobile and bicycle supplies. Corporators—Dwight B. Carmichael, John F. Power, James S. McInerney.

Jersey City, N. J.—National Taxameter Co., under New Jersey laws, with $30.000 capital; to manufacture, buy, sell or deal in any article, product or accessory thereto used in transporting either persons or property Corporators—Ernest P. Burritt, F. E. Ellison, Albert White.

Grabowsky Joins Independents.

Another member has been added to the American Motor Car Manufacturers' Association in the Grabowsky Power Wagon Co., of Detroit, Mich. The general manager and designer is Max Grobowsky, who was for several years connected with the Rapid Motor Vehicle Co., of Pontiac, Mich., of which his brother, Morris Grabowsky, is secretary. The new company is making a specialty of sight-seing cars, police patrols, and commercial wagons, a removable power plant being a construction feature. It will exhibit at the Grand Central Palace show.

Will Make "Ruth" Automobiles.

In the footsteps of the famous foreign designer, who names his cars after his daughters, Milo Daniels, of North Webster, Mass., is about to produce the "Ruth" automobile. With his father, Charles Daniels, he has formed a company and secured a factory, where operations have commenced.

Sanders a Franklin Field Man.

F. H. Sanders, for several years a Franklin demonstrator and salesman for Adams & Hart, of Grand Rapids, Mich., has been engaged as a field salesman for the H. H. Franklin Manufacturing Co., of Syracuse, N. Y. He leaves in the near future for an extensive trip in the northwestern territory, visiting dealers and instructing them as to the mechanical features and selling points of the latest Franklin models.

Selden Testifies in Ford Suit.

Testimony in the famous suit against the Ford Motor Co. and others as to the validity of the Selden patent is being given this week by George B. Selden himself in the sur-rebuttal proceedings. It will be four years next October since the litigation commenced in earnest and the mass of testimony taken in that time would, in its printed form, fill a small library.

Velie Vehicles for Moline.

Moline, Ill., is to have another automobile manufacturing concern in the Velie Motor Vehicle Co., which has been incorporated with a capital stock of $100,000. The new company is an offshoot of the Velie Carriage Co., of Moline, its incorporators being W. L. Velie, Otis E. Mansur, and Stuart Harper, all of whom are directors in the older company.

Aldrich to Sell Aluminum.

Raymond D. Aldrich, well known to the trade as a lamp salesman and former representative in Detroit for the Brandenburg Brothers Co., has gone with the U. S. Bronze Co., of Cleveland, Ohio. He will push the sales of the complete line of aluminum specialties which the company makes for the automobile industry.

Loos Starts in for Himself.

W. L. Loos, former manager and purchasing agent for J. T. Bill & Co., at Los Angeles, Cal., has gone into business for himself in Oakland. Automobile accessories and supplies will constitute one of his jobbing lines, and complete machines will be handled also at his retail store.

Hatch Resigns from Thomas.

Mason B. Hatch has resigned his position as sales manager of the E. R. Thomas Motor Co., of Buffalo, N. Y., to go into the retail field. He will handle the Chalmers-Detroit line exclusively in Buffalo and surrounding territory.

Open Permanent Headquarters.

The Philadelphia Automobile Trade Association has opened a permanent headquarters for the convenience of its members. Rooms have been taken at Suite 216 in the Odd Fellows Temple.

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POPE RECEIVER'S JUNE REPORT

Statement for the Month Under the Connecticut Receivership—The Figures Given in Detail.

The June report for the receivers of the Pope Mfg. Co., in Connecticut has been filed with the clerk of the Superior Court in Hartford. The cash balances in the banks and in the office total $587,338.47, with some $109,000 outstanding, while the accrued liabilities of the receivers have amounted to $48,117.47.

The detailed statement follows:

Balance in banks and cash in office, May 31, 1908		$422,261.64
Cash Receipts for June, 1908.		
Receipts from collection of accounts and notes receivable of Pope Mfg. Co.:—		
Hartford accounts		$831.18
Westfield accounts		445.58
Hagerstown accounts		2,220.37
		$3,497.13
Receipts from sales by receivers.		$254,163.49
Receipts from deposits by customers on orders for automobiles		3,985.00
Interest Received:—		
On notes receivable	$1.00	
On bank balances	2,258.00	
		$2,259.00
Rental from Thompsonville factory		100.00
Refund of special advances		7.14
Returned insurance premiums		7.76
Misc. items of income		23.00
Receipts from and for account of receivers:—		
In Massachusetts	$1,148.95	
In Maryland	180.88	
In Illinois	1,050.00	
Pope Motor Car Co., Toledo	3.93	
Pope Motor Car Co., Indianapolis	81.33	
Federal Man. Co.	8.15	
	$2,473.24	$266,515.76
		$688.777.40
Cash Disbursements for June, 1908.		
Refund of deposits received on misc. undelivered orders		$3,672.62
Receivers' expenses and payments for purchases:—		
Payrolls factory and office		$44,650.45
Misc. and selling expenses		794.95
Material and supplies		47,480.80
		$92,926.20
Receivers' fees:—		
Albert L. Pope		$500.00
George A. Yule		500.00
		$1.000.00
Payments in settlement of accounts with:—		
Receivers in Mass.	$933.47	
Rec. in Maryland	2,530.44	
Rec. in New Jersey	263.77	
Rec.in Toledo	56.84	
Rec. in Indianapolis	55.09	
	$3,840.11	$101,438.93
Balance in Am. Nat. Bank	$325,263.84	
Balance in Phoenix Nat. Bank	260,126.52	
Balance in First Nat. Bank	266.19	
Cash in office	1,681.92	
		$587,338.47
Accrued Liabilities of Receivers:		
For materials, supplies and miscellaneous expenses		$45,846.69
For payrolls, factory and office.		2,270.78
		$48,117.47
Balances due receivers of Pope Mfg. Co. and Pope Motor Car Co., from other districts		624.57
Accounts receivable from sales of receivers May 31, 1908, per last report		181,997.15
Sales of receivers for June, 1908.		201,700.55
		$383,697.70
Less cash collections for June, 1908	$254,163.49	
Deposits credited to accounts receivable, cash discounts and miscellaneous contra accounts	30,246.05	$284,409.54
		$99,288.16
Balances due from receivers of Pope Mfg. Co. in other districts of receivers of Pope Motor Car Co. for transfer of merchandise and supplies, and advances for expenses		$9,801.02

Selden's Patent Share is Sure.

Out of the $46,173.29 disbursed by the receivers of the Electric Vehicle Co., of Hartford, Conn., during the month of June, not the least interesting item is the sum paid George B. Selden for his share of Selden patent royalties and amounting to $11,-745.45. The cash receipts for the month were $47,265.82.

The cash statement of receipts and disbursements is as follows:

Receipts.	
Cash on hand June 1, 1908	$120,104.11
Cash collected on E. V. Co. acct.	515.85
Cash collected on receivers' account	46,120.37
Cash interest Am. Nat. Bank	629.60
	$167,369.93
Disbursements.	
Payroll	$17,884.00
Traveling expenses	315.70
Purchasing creditors	12,853.98
Freight and express	80.24
Commissions	250.00
Petty cash	484.78
Telegraph and telephone	17.19
Legal expenses	1,591.95
Receivers' salaries	800.00
Storage	150.00
G. B. Selden	11,745.45
Cash receipts	$167,369.93
Cash disbursed	46,173.29
Balance on hand July 1, 1908.	$121,196.64

Lindsley to Enlarge.

An extensive enlargement of the Lake & Neff automobile works at Dowagiac, Mich., is in prospect under the new ownership of the J. W. Lindsley Co., of Chicago. Frank Lane has been retained as manager of the plant.

TRADE SOUND IN WESTERN STATES

DeLisser Saw Strange Contrasts in Automobile Demand—Ajax Changes Follow His Trip—Agents Entertained.

Just returned from the Pacific Coast, with fresh impressions and some unusual observations on business conditions, Horace De Lisser, president of the Ajax-Grieb Rubber Co., of Trenton, N. J., takes a very healthy and satisfactory view of the outlook, seasoned with some little surprises in what he saw. His trip took in everything from Seattle to Los Angeles and all the principal places en route.

In San Francisco general business is still dormant, he found, the banks preferring to lend money on building operations, which are very extensive. In the automobile business a peculiar state of affairs exists in that light touring cars are much in demand, while runabouts appear to be a positive drug on the market. In Los Angeles he found exactly the reverse to be true, with no explanation observable.

With the exception of the flooded district in Kansas, bumper crops are general in the agricultural sections, with a corresponding local prosperity in every instance. As the farmer is assured of plenty of money, De Lisser looks to the West as a big market for the medium and low priced machines. Evidences that many manufacturers are laying extensive plans for this business also came within his notice.

The tire business he found in very good condition, and to aid its development so far as Ajax tires are concerned, he left a number of changes in his wake, which are to take effect almost immediately. Among these is the bringing to New York of Harold Stimson, manager of the Seattle branch, who will become assistant to the president at the New York office, having immediate charge of the branch houses, of which there will shortly be ten. Frank Lumsden, formerly of the Ford Motor Company, succeeds Stimson as manager at Seattle. George Packer, formerly of the Scott Tool & Supply Co., has been appointed manager of the Denver branch. A new branch in Kansas City will shortly be established on Grand avenue, and this will be in charge of a prominent tradesman of that city with whom negotiations have been practically closed. Still another branch will be opened in Philadelphia, the exact location of which has not yet been decided upon.

Hardly had De Lisser arrived in New York before he came upon the convention of branch managers of the Maxwell-Briscoe Motor Co., 23 in number, in session at Tarrytown. These he corralled for a trip in a special Pullman to the new Ajax-Grieb factory on Tuesday, where they saw Ajax tires in all stages of tire making, returning to New York for dinner and the theater.

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FRANKLIN Automobiles

Is "something for nothing" any more likely in automobiles than elsewhere?

Look at what Franklins do; and the little they cost to do it. Look at how they are made. Ride all day in any Franklin. You enjoy every minute. So do your passengers.

You get all the speed you want. You do things on hills that no other automobile of the rating can touch. You keep on going—never mind grades, sand, mud or the rocky, bumpy stretches that knock the life out of a stiff steel-frame automobile with half-elliptic springs.

This sort of going in such an automobile wastes the engine power, wears out the machinery rapidly and is hard on the passengers.

The Franklin with its large wheels and tires, its four full-elliptic springs and its laminated wood-frame doesn't mind these jolts and jars. They don't reach the engine nor the passengers.

You leave the hard-riding automobile behind. You do it with perfect comfort and less wear and tear and less operating cost.

Franklins weigh on an average a third less than other automobiles of similar capacity; so that you carry the same passengers for a third less tires and a third less gasoline.

Even at the same weight the air-cooled Franklin engine does the work on 25 per cent. less fuel than a water-cooled automobile. And you have no plumbing system to fuss with—no water to leak nor boil, nor to freeze in winter. You can use your Franklin any minute day or night every day in the year.

You can't wear out a Franklin. The first experimental Franklin made in 1901 is in good use to-day. So are all we ever made, so far as we know.

Franklins are not cheap to make. Their materials and construction are the highest grade. They cost a good deal more *per round* than ordinary automobiles. But considering the work they do and their low-running cost and their 365 days of service in a year, and the long time they last, they are after all the most economical automobiles you can buy.

You get what you pay for. Franklins are worth the money.

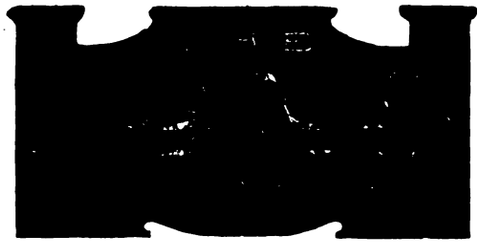
16 h. p. 4-cylinder Runabout $1,750	28 h. p. 4-cylinder Touring-car or Runabout... $2,850
16 h. p. 4-cylinder Touring-car.. 1,850	42 h. p. 6-cylinder Touring-car or Runabout... 4,000

Prices f. o. b. Syracuse

Write for catalogue describing the Franklin.

H. H. FRANKLIN MFG. CO., Syracuse, N. Y.

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NEW YORK, JULY 16, 1908.

The Farmer as an Automobile Buyer.

That conception of manufacturing which believes in finding out what can be sold and where it can be sold, and then making it to be sold there, rather than to confine production to some arbitrary fixed ideal, has certain opportunities in automobile manufacture at the present time which are not to be overlooked. These arise from the fact that this year no small portion of the money of the country seems likely to lie for quite a period to the credit and at the disposition of that portion of the populace which has devoted itself to the coaxing of products from the ground and which this spring has been rewarded with promises of extremely abundant and fruitful returns. This alone would not be sufficient were it not that coupled with the affluence now in prospect there is an itching for motor car possession and a conviction that the automobile has practical benefits from a business and economical standpoint.

To strip the proposition of all its euphemism, that neglected and in some quarters despised customer, the farmer, is going to spend money for automobiles this season to an extent that is unbelievable to those who have not given the matter study. The business that has already been done in motor vehicles designed with particular regard to his purse and fancy has reached astonishing proportions, its volume being such as to attract the commercial sense of at least two of the largest organizations that have relations with him.

Those who insist on doing business with the kid-glove and check-book set or not at all, may see no possibilities in the well recognized prosperity of the agricultural communities. To them the thoughts of dealing with so rude and uncouth a class, which bears traces of stinginess, are more or less impossible, due to certain antiquated impressions and prejudices which actual contact with the Western farmer would quickly remove. But for the manufacturers who can adapt themselves to conditions and markets, without sacrificing any tenets of sound business, the assured prosperity of the Western farmer is a call to action.

Future of the Electric Vehicle.

That the field for electric vehicles never as yet has been exploited to anything like its full value, is a conclusion which must develop on close consideration of several of its peculiar characteristics. Up to the present, it has been more or less in competition with other power driven vehicles intended solely for highway service. Yet even in that respect it has become differentiated, in that its fitness for metropolitan service, as contrasted with that over the common dirt highway, and for commercial as contrasted with purely pleasure duty, have become its leading features. In one or two of its commercial applications, which have only recently come to notice, though by no means of recent origin, however, lie the germ of what may be considered one of the brightest sections of its future field.

The experimental use of electric trucks by the Pennsylvania Railroad for freight and baggage transfer, opens an extensive outlook in itself, but not half as suggestive as the kindred possibility of utilizing similar vehicles, of both large and small capacity for purposes of freight transfer in industrial plants. Take for instance the lighter type at present employed in railroad service, which, though strictly motor driven, is controlled like an ordinary hand truck, through a tongue which is held by the operator. With the great latitude of design which lies at the command of the electric vehicle designer, it would be perfectly possible to modify such a design in a number of ways to meet the demands of the necessary transportation which is now performed in large manufacturing plants by the aid of overhead cranes, telpherage, and more frequently, by means of ordinary push trucks.

Such vehicles, might be made with low platforms, the motor and battery being carried at one end, as in mine locomotives, and of capacities suited to the needs of the materials to be handled. Without limitation as to radius of travel, they might be shifted about from point to point in the plant, as occasion demanded, and employed either for long or short hauls. Similarly, larger sizes, following the more conventional design of the ordinary electric might be made to supplant even the industrial railway, and with economy, since no trackage, and no stationary plant other than the regular power plant, would be required. Their attendance need be only that of the driver, who also attends to the loading, while the batteries, charged at night, and massed under the care of a single electrician, would form in many instances, a welcome "equalizer" on the otherwise, low, night load of the power department. Among other advantages the simplicity of operation, low maintenance cost, low operating cost, and absence of noise and fire risk, which are reckoned in favor of the electric for road service, must count equally in its favor when given special applications such as these.

The real point of superlative excellence, which makes the suggestion of such uses tenable, is that the electric vehicle is absolutely flexible as to the nature and arrangement of its three elementary groups. There must be a running gear, a battery and a motor. These elements may be arranged absolutely at the will of the designer, subject to the peculiar demands of the service contemplated. Such advantageous qualities are lacking in self-propelled vehicles employing other sources of power, and their applicability to such purposes, really extraneous to the proper province of the automobile as ordinarily recognized, are limited accordingly.

The absolute tractibility of the electric current as applied in isolated power units, has given rise to a host of modern improvements in industrial undertakings, never dreamed of before the days of the portable

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machine tool and to economies unheard of before the application of individual drives for machinery of various sorts. In a similar way, the development of the electric vehicle, especially of the small type adapted to special uses, gives promise of still other conveniences and economies, which even yet are unknown.

Friendliness of the Carriage Makers.

By contrast with its former hostile attitude, the present eagerness of the carriage-making industry and trade to cement itself more closely to the automobile business is, to say the least, interesting to behold. The production of bodies, which was the perfectly natural entering wedge, has been followed with a more cordial regard, until, after several years of constantly increasing business from this source, the carriage-makers in general have come to recognize an extremely profitable outlook in the repairing of motor cars. Now it has come to be appreciated that in performing the double function of carriage and automobile repairer, a full measure of business may be obtained, and dull times tided over—the more so, because, as a well, known journal of the trade puts it, "the average automobile is in the repair shop much oftener than the average carriage, on account of the useage and recklessness to which it is subjected."

"Were it not for the popularity of the motor car," as this authority continues, "many carriage shops throughout the country would be finding it difficult to weather the slack period in regular carriage work. Herein lies the advantage to carriage builders of catering to both branches of the trade. The carriage builder who can do a good job of automobile repairing is the man who is keeping the wheels of his business going these days."

And herein also, lies a certain disadvantage to the user, unless he be exceptionally fortunate in securing the services of a good machinist as well as a good carriage maker. For the automobile is still much less a carriage than a machine, and no store of knowledge relating to matters of carriage work alone, is sufficient to cope with the demands of the hybrid modern mechanism of the elaborate car. As has been pointed out more than once, the province of the carriage builder is essentially confined to the production of bodies. The mechanical side of the motor car, he may work up to, as it were, but his early experience and the traditions of his trade are in many respects at variance with its best practices. Therefore, it behooves the user and the manufacturer to be cautious in entrusting work of the mechanical sort to carriage builders, unless they are especially equipped to handle it. Ultimately, the importance of their position is destined to be of the greatest significance. But the alliance must be a gradual one and conservatively advanced on both sides.

Needs of the Country Garage.

To the automobile tourist is given an opportunity of contrasting broadly the garage conditions afforded by the typical metropolitan establishment, and the average country equivalent which stands as substitute for it by necessity, though seldom from choice. The differences are mainly due to the relative natures of the "plants," in the two instances, and they, in turn, to the differences in the amounts of business carried and the outlay warranted thereby. But in the last analysis, it is evident that the average country garageman, like many of his brethren in the town, is wasting his efforts merely through lack of ability to foresee what his patrons will be apt to require, and lack of tact in caring for their needs.

Some one has defined a garage—as though a definition were of any particular use—as serving a three-fold purpose, namely that of a store for the supply of fuel, lubricant and other running necessities; a machine shop, where repairs of any and all sorts may be performed; and a repository for the safe keeping of the machines during the intervals between their periods of service. The distinguishment thus afforded between the various divisions of the main purpose of the garage is useful in this connection because too many garagemen lose sight of the fact that these purposes are distinct.

What the average city garage has, which the average country garage has not, is above all, system and departmentization. It is true, that in the small plant, it is difficult to separate the various divisions of the work, and that confusion and its kindred difficulties follow very often merely through lack of space, and lack of funds to establish a systematic arrangement. But when the proprietor has a clear idea of the advantages of cleanliness and order, he is usually able to do a great deal toward remedying even this defect in his surroundings.

System is, to a degree, self-propulsive. If a certain article has a stated place, its absence from that place indicates neglect, and conversely, its very presence in good condition, suggests its use. Once a garage, no matter how limited its scope, has been placed on an orderly basis, and organized along right lines, it becomes attractive to the user, and, as is particularly true with the country garage, the transient customer may become either a friend of a foe, according to the treatment accorded him.

The garage business resembles in many of its aspects the hotel business. Once the proprietor has learned the secret of so pleasing his patrons as to enlist them in his service, the relative value of his geographical location becomes of measurably less importance. The principle applies in degree to the garage. The sophisticated metropolitan garageman has learned the secret of pleasing his patrons by a dozen little attentions which his experience has taught are of value. The man with a small place outside the city limits, is too prone to regard his location as an unprofitable one from the standpoint of large volumes of business, and to overlook the importance of those little details which count for so much in the long run.

COMING EVENTS

Sept. 1, 2, 3, and 4, Chicago, Ill.—Chicago Motor Club's postponed 1,000-mile reliability run.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles outlaw race for foreign cars.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show in Madison Square Garden.

Statistics gathered directly from the user by the various makers, in many instances have formed valuable contributions to the fund of general information on the subject of the costs of motoring. The outcome of a recent prize competition for chauffeurs is the latest instance in point, furnishing as it does, an astonishing revelation of the possible maintenance cost of new, high powered and well made machines. It must be borne in mind, however, that these are exceptional figures rather averages in the absolute sense. They show what it is possible to accomplish where proper care and a good machine are brought together.

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IN HOT PURSUIT OF GLIDDEN TROPHY

The standing of the teams in the Glidden competition was on Wednesday night, July 15, as follows: Automobile Club of Buffalo, Team No. 1, (Pierce Great Arrows, Nos. 1, 2 and 3), perfect score; Automobile Club of Buffalo, Team No. 2, (Reo, No. 4, and Premiers, Nos. 8 and 9) perfect score; Chicago Motor Club Team, No. 1 (Haynes, Nos. 19 and 20, and Olds, No. 35), perfect score; Rochester Automobile Club Team, No. 2 (Studebakers, Nos. 24, 25 and 26), perfect score; Bay State Automobile Club (Marmons, Nos. 21, 22 and 23), perfect score; Columbus Automobile Club (Peerless, Nos. 5, 6, and 7), perfect score; Chicago Motor Club Team, No. 2 (Rainier, No. 15, and Oakland, Nos. 27 and 28) 997⅔ points; Rochester Automobile Club Team, No. 1 (Selden, No. 32, Gaeth, No. 10, and Thimos, No. 11), 666⅔ points; Cleveland Automobile Club (Garfords, Nos. 29, 30 and 31), 664⅔ points; Automobile Club of Syracuse (Franklin, Nos. 12, 13 and 14), 626⅔ points. For certificates only, Stevens-Duryea, Nos. 16 and 17, perfect scores.

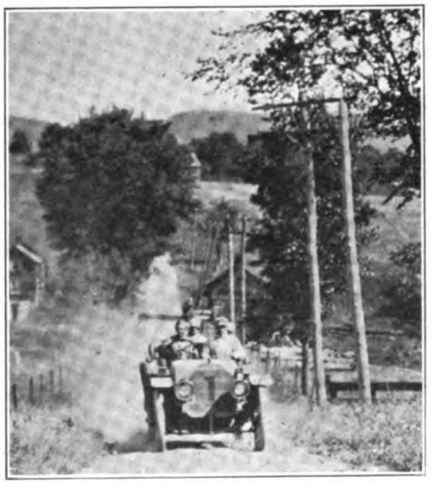
For the Hower trophy for runabouts the standing was as follows: Pierce Arrow, No. 100; Pierce Arrow, No. 103; Premier, No. 104; Stoddard-Dayton, No. 107; Stoddard-Dayton, No. 112, perfect scores.. Reo, No 101, points remaining, 988; Overland, No. 110, points left, 967; Stoddard-Dayton, No. 109, points left, 832; Franklin, No. 106, points left, 819. The cars out are Gearless, No. 105; Overland, Nos. 108, 110 and 111; Gyroscope, No. 113, and Moline, No. 102, the latter two continuing as non-contestants with the intention of making the entire distance of the tour.



STARTING THE TOURISTS FROM BUFFALO—TYPICAL CROWD OF SPECTATORS

Busy policemen had a lively time keeping the crowds back so that the touring contest for the Glidden and Hower trophies might have a favorable start from Buffalo, on Thursday, July 9th. Promptly at 10 o'clock, however, the tour began and one by one the 56 cars intending to go the distance were sent off, accompanied by a few misguided enthusiasts who trailed along for part of the first day's trip. The 46 competing cars had been parked in official open air garage space the night before, under the direction of the chairman of the tour, so that there was no delay in lining them up for the start.

The first day's run, from Buffalo to Cambridge Springs, Pa., a distance of 117 miles, gave a route which for a large part of the way skirted along the edge of Lake Erie. The schedule of 5 hours and 52 minutes for the big cars was very easy, as almost all of the drivers took advantage of the good roads to get in some fast work. John Breyfogle, driving a Gearless car in the Hower class, was the first to suffer mishap, his machine striking a telegraph pole near Westfield, N. Y., just 62 miles from Buffalo. A broken frame and other damages put the car out of the contest. L. A. Talbot, driving a Franklin, broke a spring, but by ingenious welding at a blacksmith shop was able to repair it himself, thus avoiding penalization. On arriving at Cambridge Springs it was found that there was much confusion as to the rules, particularly on the part of observers who undertook to instruct the drivers as to the interpretation. Minor errors of checking in were therefore overlooked, but a lecture and a warning were given in the evening by Chairman Hower.



GOOD GOING IN HILLY REGION

A change was deemed necessary in Friday's route for the run from Cambridge Springs to Pittsburg, increasing the distance from 110 to 127 miles. The time schedule for the big cars was accordingly increased from 6 hours and 30 minutes to 6 hours and 45 minutes. The roads were rough and rutty for half the distance, but very good the rest. The towns along the way gave a glad welcome to the tourists, and Newcastle, Pa., turned out en masse. The local cops held the crowds to the curb and waved the tourists to go through as fast as they liked. Those who accepted the invitation and gave speed demonstrations on the brick pavement were loudly cheered. A too zealous flagman, in clearing the road, walked directly in front of H. A. Van Tine's Garford car just as it was turning a corner at speed. Van Tine veered to the curb to avoid hitting him, and broke a wheel in skidding. He soon got a new wheel from a local agent, but was disqualified at Pittsburg because the extra wheel was not inventoried and carried along originally. This

(Continued on page 526.)

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The First Gun

1909

MARSH RIMS

Chosen as Exclusive Equipment for a Total of 2,500 Chalmers-Detroit Cars

THE FIRST EXCLUSIVE RIM CONTRACT

ever written, it was given only after the most searching investigation and tests.

Quick acting in actual practice, not in name principally, Marsh Rims distanced every competitor.

100% EFFICIENCY

NO OTHER RIM CAN TOUCH THE MARK

"For ourselves, we insist on Marsh Rims. We recommend them everywhere," is the concensus of the leading trade's judgment.

Our 1909 proposition to manufacturers is vitally interesting—more, it is of extraordinary importance. We mean just this.

LOOK OVER THE ACCOMPANYING PAGE.

THE DIAMOND RUBBER COMPANY

AKRON, OHIO

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FOR 1909 MARSH RIMS

100% EFFICIENCY

What Quick Acting Rim predominated in all the 1907-8 automobile shows?

THE MARSH—20 per cent. more of them on cars shown than the highest competing make.

What Quick Acting Rim has been mostly used in the Glidden and other tours and runs this year?

THE MARSH—Emphatically. Its superior record has been even more conspicuous.

What one Quick Acting Rim has been successfully used in racing this year and last?

THE MARSH AND THE MARSH ONLY—The winning of the 190-mile Savannah race is just a sample instance. MARSH RIMS stay on, but can be taken off and applied in a few seconds.

What rim has led all others in 1908 sales—not only to the trade but particularly upon consumer's specifications.

THE MARSH RIM—by a wide margin, and this without price juggling or private inducements.

In a word, it was THE MARSH RIM against the field for 1908, and THE MARSH RIM won.

For 1909 it is the same, and the field does not measure up to 100 per cent. efficiency—and never did and can't.

THE MARSH RIM has and does. Results talk. Absolute efficiency, unvarying reliability, ease of manipulation, safety and uniformity—against these there can be no offset.

THE DIAMOND RUBBER COMPANY

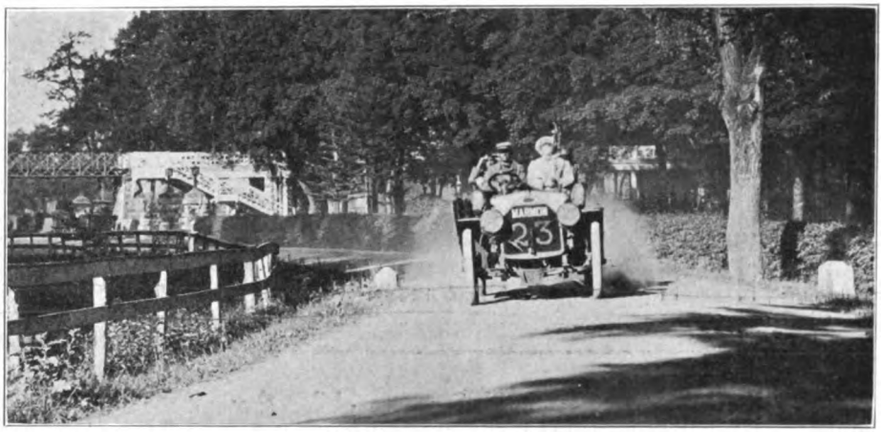
AKRON, OHIO

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In Hot Pursuit of Glidden Trophy.

(Continued from page 523.)

brought 333⅓ points penalty against the Cleveland Automobile Club team. The Oakland No. 28, of the Chicago Motor Club Team No. 2, was penalized 7 points, bringing 2⅓ points against its club. A connecting rod bearing replacement was the cause. The Gyroscope car in the Hower class fell behind and did not get in until long after the others.

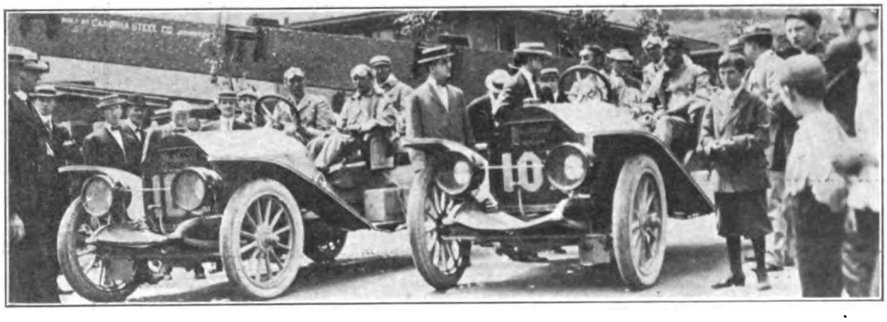


ONE OF THE MARMONS LEAVING BEDFORD SPRINGS HOTEL

Saturday's run, July 11, was 106 miles, from Pittsburg to Bedford Springs, Pa., with a seven-hour schedule for the biggest cars. Tortuous, winding roads, around the edges of cliffs took the tourists over one of the highest points in the Alleghenies, after which it was a dangerous slide, with smoking brakes, down to where Bedford Springs lies between the two main ridges of the mountains. The cars had to be driven to the limit that the roads would permit in order to make the schedule, and on alighting at the Springs the drivers and passengers could hardly walk for the bruising and jouncing that they had had. Their faces were covered with masks of hardened dust. To make their joy complete, they were given the cheering information that they had arrived just too late for lunch, although a few of the early ones were served. In the Glidden class, W. H. Hurlburt's Garford, No. 31, incurred 6 points penalty, bringing 2 points more against the Cleveland team. The Overland, No. 108, driven by Mrs. E. W. Shirley, lost 9 points from its Hower score through tardiness, the Hower trophy Stoddard-Dayton, No. 109, lost 168 points, and the Overland, No. 111, was disqualified with a broken spring. The Stoddard-Dayton's difficulties arose through a wandering spark from the magneto setting fire to the gasolene at the carburetter. A lively fire resulted, which burned several hands and coats that were used to put it out.



GREAT ARROW TEAM ENTERING HARRISBURG



STODDARD-DAYTON TEAM AT HARRISBURG



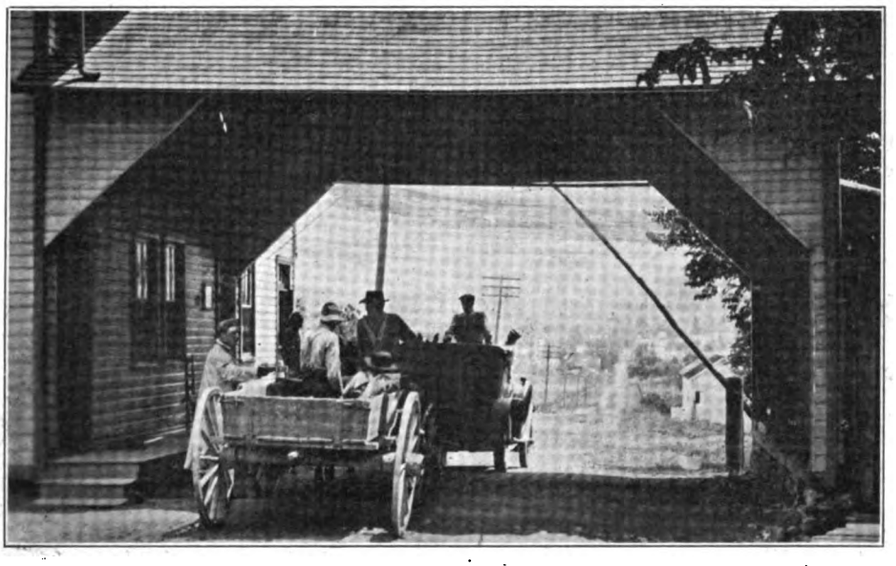
FRANKLIN TEAM—ONLY AIR COOLED CARS IN THE TOUR

Sunday at Bedford Springs was a day of rest, and everybody honored it as such by getting up late. The leisure of the day gave the tourists the opportunity to get acquainted. It was found that there were four women on the trip. Mrs. E. W. Shirley, Mrs. Joan Cuneo, Mrs. W. C. Marmon, who was with her husband, and Mrs. E. S. Berwick, with Mrs. Cuneo. An alleged Japanese prince was also discovered, Togia Ninagowa, supposed to be studying automobile matters in America and taking the tour for experience. But he did not prove half so interesting as Mrs. Cuneo's black mascot kitten, which was doomed to a violent automobile death the next day through too great a confidence in motor cars. The "Mudlarks," veterans of the endurance run to Pittsburg in 1903, got together and made merry, repeating the stories of that swim, but even their festivities did not last very late and everybody got to bed in good season.

The 13th was an unlucky day, not alone for the black kitten, which was killed. Two clubs were penalized and three Hower contestants lost points. It was 157 miles from Bedford Springs to Harrisburg, and the schedule was six hours. The Rochester Automobile Club, Team No. 1, lost 333⅓ points through the retirement of the Selden, No. 32, because of a broken spring, three miles from Harrisburg, while the Syracuse Club lost 20 points through a 60-point penalty

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against Franklin, No. 12, which also had a broken spring. In the Hower class, Franklin, No. 106, dropped 181 points, the Moline, No. 102, lost 51 points, and Mrs. Shirley's Overland, No. 108, got 102 points more. On account of the sickness of her mechanic's father, she dropped out of the contest, to give the mechanician the chance to hasten home. It was a hard climb over



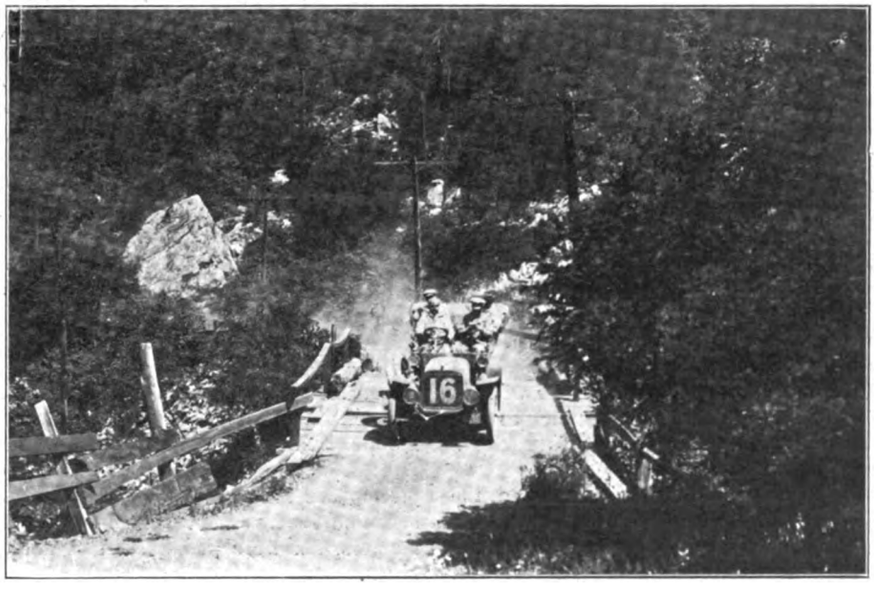
PAYING THE WAY AT SCRUB RIDGE, NEAR McCONNELLSBURG, PA.

the last half of the Alleghenies, enlivened by triumphal arches in some of the small towns, but down grade into Harrisburg was speedy and exciting. The Motor Club of Harrisburg did the honors at a smoker in the evening.

From Harrisburg to Philadelphia on Tuesday was an easy 134 miles, and no penalties were incurred except by the Moline, which limped in at midnight with cylinder trouble. "Rough Rider" Hurlburt drove his Garford in such romping style that he tossed Benny Smith, a mechanic, out of the car, and as empty air offered inadequate support, Benny fell with a thud on the road near Reading. He had been perched on the back of the car, with his feet on the rear seat, and was not prepared for the jolt that sent him out. However he absolved Hurlburt from all blame for his scratched face and bumped head. The Quaker City Motor Club gave a smoker at Horticultural Hall.

Wednesday, July 15, completed just six of the twelve days' touring, the run being from Philadelphia, through the Delaware Water Gap to Milford, Pa., which is in Pike county. The distance was 132 miles, and only Hower contestants suffered. Of these the Reo, No. 101, lost 12 points, and Overland, No. 110, dropped 33 points. The Moline, No. 102, withdrew to put in a new cylinder, and continue as a non-contestant.

The converse of "No news is good news," is almost equally true, that good news is no news, especially as applied to the cars in the tour, where accidents and penalizations constitute the chief topics of conversation and discussion. In the same sense it has been pointed out that there is no news in the fact that the cashier of the prominent bank did not abscond with the funds or that the great trust magnate still loves his wife, and the application follows in pointing out that in the Glidden and Hower contests a large number of the cars are running so regularly and surely as to be denied the attention that is their due.



RUSTIC BRIDGE, 50 MILES FROM PITTSBURG

There are six Pierce Great Arrows in the tour, three in competition for the Glidden trophy and representing one team of the Buffalo Automobile Club, two in the struggle for the Hower trophy, and one as an official car for the use of Charles J. Glidden and Chairman Hower. All of them are in the hands of "home-grown" Pierce drivers who know their cars better than most men know their wives.

Three Marmon cars uphold the Bay State Automobile Club's claims for the trophy with an ease and steadiness that is calculated to make the club well content with its chances, while three Studebakers give the Rochester Automobile Club every reason for confidence. The Columbus Automobile Club is represented by three Peerless cars, painted red, white and blue, respectively, all of which have made perfect scores. Were it not that they are only competing for certificates, the two Stevens-Duryeas, with perfect scores, would make an element of team strength for any club, being able to hold their own in every circumstance. The Automobile Club of Buffalo, in its No. 2 team has mixed company, consisting of two Premiers and a Reo, and the Chicago Motor Club also has a mixture of makers in its No. 1 team, consisting of an Olds and two Haynes. All of these cars have run to the tune of perfect scores.

In the Hower contest the work of the two Pierce Arrows, the No. 104 Premier, the No. 107 Stoddard-Dayton, and the No. 112, Stoddard-Dayton has been so regular and uneventful that their less fortunate companions have attracted most of the attention. Needless to say, however, as the contest narrows down, the survivors with perfect scores loom more into the limelight.

As the donor of the trophy, Charles J. Glidden, feels entitled to views on the tour, and these he expressed at Harrisburg by saying; "This annual tour has progressed far enough to warrant calling it the severest test to which the automobile has ever been put and I doubt if a single car completes the long tour in a perfect condition. During my driving of the automobile I have witnessed several important endurance contests in different parts of the world, but have seen none requiring such skill, care and judgment of drivers as the one now un-

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der way. Rumors are afloat that the winner will be challenged to a contest by some foreign and domestic manufacturers under the rules of 1907. Any manufacturer whose car arrives at Saratoga with or without a perfect score will be in a position to challenge the world and win any kind of a contest under the rules of 1908, which requires the careful scrutiny of observers appointed by a competing manufacturer."

The perfect score cars on club teams that were penalized through the mishaps to one or two of the trio composing them are apt to endure a shade of unjust stigma where they should be regarded with equal honor to those on teams no members of which were penalized. As individual performances their work is exactly the same. Two Franklins of the Syracuse team, the only air cooled make to be represented, enjoy the



SCENE EXEMPLIFYING POPULAR INTEREST



VIEW OF THE OPEN AIR GARAGE

immunity from penalties that comes of perfect performance, and similarly the Thomas, the Oakland, the Rainier, the Gaeth and the Garford are individually in the forefront with perfect scores.

Such cars as have incurred penalties have not been stripped of honor as a result, because in many instances there was no mechanical fault of the car itself involved in the circumstances which caused the penalization. In making the choice between possible physical injury to another and a spoiled score, the penalizations bear witness to the readiness of the contestants to forget, when need be, that there is such a thing as a score to reckon on.

In spite of the natural tension on the nerves due to the competition features of the affair, there has been no lack of the display of the more social and lighter side of life. At Cambridge Springs there was a great rush for a swim in the river and bathing pool, the scene resembling the scramble of schoolboys just released from class making a race to the swimming hole. Because of the more or less negligee costume which many of the drivers affect during the summer months there were all sorts and conditions of tan on exhibition, and those who could show the most and the blackest tan excited the same envious regard that is accorded the boy in the school yard who can wiggle his ears the best.

As a relaxation from the physical ardors of the trip, "Rough Rider" Hurlburt spent several quiet hours figuring out how big an automobile it would make if all the cars in the Glidden tour were rolled into one. After revising his mathematics several times he announced to a breathless audience that such a car would be so big that it would use up 150 gallons of gasolene for the trip, together with 20 gallons of lubricating oil and $4,000 worth of tires. Furthermore, it would have to travel 100,000 miles. Its cost would be over $100,000, and the depreciation on the trip would amount to $30,000, involving a total expense of $60,000 to put the car through the run.

As is usually the case, many of the roadside spectators think that the tour is something on the order of the Grand Prix or the Vanderbilt cup race, and shout encouragement to the drivers accordingly. Some of the more officious and thorough "rooters" rush out and hold up their fingers to indicate just how many cars are ahead, and urge extra speed to overtake them. Many of the crowds that had gathered in the small towns to see the tourists go through look positively grieved when the cars proceed at a modest pace and are pleased only when mufflers are opened and a seemingly reckless dash is indulged in.

Fourteen Made Perfect Scores.

Fourteen drivers earned perfect scores in the reliability run promoted by the Automobile Dealers' Association of Southern California on July 3, 4, 5 and 6, by completing 350 miles of give and take road on schedule time. Of the original number of starters, six were penalized, two failing to finish.

The long run started from Los Angeles on Friday morning, 3d inst., and the first day's journey took the tourists to San Diego, where a stop over night was made. Sixteen cars survived the first leg of the run without penalization, but two fell down on the run from San Diego to Riverside on Saturday. The roads were in good condition except in several sandy spots, and better results were made than on the first day. After a rest in Riverside over Sunday the tourists continued up the coast through San Bernardino to Los Angeles. The perfect score winners were:

Miss Gladys Moore, Cadillac; Mrs. W. J. Burt, Tourist; F. A. Raney, Stoddard-Dayton; R. D. Rose, Elmore; Lee Motor Car Co., Cadillac; Guy West, Auburn; H. E. Gilley, Autocar; Lord Motor Car Co., Studebaker; J. H. Bennett, Tourist; W. N. Congdon, Tourist; Joseph Pike, Auburn; V. S. Beardsley, Tourist; Greer-Robins Co., Mitchell, and J. S. Conwell, Tourist.

Huthbert Wins Rocky Mountain Run.

Charles Huthbert, driving a Rambler roadster, was declared the winner of the Rocky Mountain roadibility test, which spread over three days of bumping on Colorado roads and trails on July 2, 3 and 4, the day's run being from Denver to Colorado Springs and return, to Fort Collins and return, and again to Colorado Springs and return.

When the contest ended on Saturday night, five cars were found to have perfect scores, but as an absolute winner of the trophy had to be evolved the technical committee got out its pads, pencils and magnifying glasses and went over the cars critically. The result of this examination made the Rambler driver by Huthbert the victor.

The contest was more than a reliability run, with certain controls to make on time. It was a sealed bonnet test as well and 3 of the 16 starters were eliminated the first day, and 5 on the second. Eight cars finished in Denver on the last day, with five apparently perfect scores among them, the finishers being:

Charles Huthbert, Rambler; Eugene Grady, Pierce Great Arrow; Roy Yockey, Corbin; J. W. Billow, Mitchell; O. G. Linder, Gaeth; Martin Fletcher, Reo; G. A. Clarke, Great Smith, and S. E. Norton, Buick.

Automobiles to Unite Ohio Towns.

Transit facilities between Lima, Lafayette and Ada, Ohio, are to be afforded by the men behind the Spencerville Auto Transit Co., who are forming a new company for that purpose. They have purchased one large automobile which is to go into commission at once, and it is planned to have an equipment to run at least four trips daily between the points named. Full service is promised within a month.

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CLOSE CONTESTS AT ARROWHEAD

Daring Climbers Safely Negotiate Depot Lane's Crooked Steep—Electrics Administer a Surprise to Doubters.

Contrary to all expectations there were no casualties at the Depot Lane hill climbing contest, held near New York City, on Saturday last, 11th inst., by the Riverside Motor Club, whatever that may be. Depot Lane, sometimes known as Arrowhead Hill, because it is near the Arrowhead Inn at 177th street and Lafayette boulevard, is a tortuous narrow lane averaging .15 per cent. grade and containing three turns. It is about one-third of a mile in length.

Because of the dangerous course, and expected casualties which did not occur, the events were not as well filled as they might have been and the contest did not attract a great crowd of people. The fastest time of the day was made by Arthur Dennison, driving a 48 horsepower stock car, when he covered the twisting lane in 23⅗ seconds, in the free-for-all class.

There was one feature of the meet that is entitled to consideration and that is that the various events were more closely contested than has been the case with other hill climbs in a long time. In the event for gasolene cars selling for over $4,000, which was won by William Bourque, the times made by all the cars were between 24⅗ and 25⅗ seconds, inclusive. The same feature marked all the events.

Some of the wiseacres went wrong when they predicted that the electrics could not get up the hill for they climbed right up to the top without hesitation and made better time than was scored in one of the gasolene events.

One of the features of the meet was an event for taxicabs, the first ever held in America. It was won by M. Kelar, in a Keaton, with Dennison second. Kelar climbed the hill in 35⅗ seconds, and the slowest time made in the event was 41⅘, illustrating how close the events were contested.

One of the features that did not materialize was a race between a four-in-hand of horses and an automobile. The events were disposed of so rapidly that the timing apparatus was torn up before the horses arrived on the scene. The summary:

Gasolene Cars Selling for $850 or Less.

Frank Dunnell, Ford..... 0;32⅖
W. H. Ladd, Maxwell 1:01⅖
A. Comancho, Gyroscope 1:14⅖

Gasolene Cars Selling from $851 to and Including $1,250.

Frank Dunnell, Ford 0:30⅖
Tommy Forbes, Overland 0:38⅘

Gasolene Cars Selling from $1,251 to and Including $2,000.

Tommy Forbes, Overland 0:45⅗
Manville, Palmer & Singer 0:49⅘

Gasolene Cars Selling from $2,001 to and Including $3,000.

William Bourque, Knox 0:20⅘
F. L. Lescault, Palmer & Singer 0:26⅗
William Dunnell, Ford 0:30⅗

Gasolene Cars Selling from $3,000 to and Including $4,000.

William Bourque, Knox 0:24⅕
Stewart H. Elliot, American 0:25⅗

Gasolene Cars Selling for Over $4,000.

William Bourque, Knox 0:24¼
K. Swan, Stearns 0:25⅖
Stewart H. Eliot, American 0:25⅗
Mitchener, Lozier 0:25⅗

Taxicabs; to Carry Four Persons, Including Driver.

M. Kelar, Keaton 0:35⅗
A. Dennison, Knox 0:35⅘
Stewart H. Elliot, Garford 0:36⅖
Felix, Bianchi 0:39⅘
Charles F. Fox, Franklin 0:41⅘

Free-for-All.

A. Dennison, Knox 0.23⅖
William Bourque, Knox 0:23⅘
Stewart H. Elliot, American 0:25⅘
Frank Dunnell, Ford 0:33⅘

Electric Vehicles.

H. E. Wagner, Babcock 0:41⅖
Dr. A. C. McIntosh, Babcock 0:44

Little Rock's First Hill Climbing Contest.

Fourth of July in Little Rock, Ark., was celebrated by a hill climbing contest and a mile road race, the first automobile events ever held in that city. The feature of the meet was the driving of B. H. Bricker, American. He won the hill climb with 3 seconds to spare, and was well in the lead in the road race when an accident put him out of the running. The summaries:

One Mile Road Race.

1 E. P. Ladd, Buick 1:10
2 I. K. Miller, Buick 1:24
3 P. W. Stift, White 1:33
4 George Daniher, Buick 1:43
5 A. N. De Mers, Buick 1:44
6 R. M. Baker, Buick 1:53
7 H. Blakeslee, American 2:36

Hill Climb.

1 B. H. Bricker, American 1:03
2 R. M. Baker, Buick 1:06
3 E. P. Ladd, Buick 1:32
4 P. W. Stift, White 2:12
5 H. Blakeslee, Franklin 2:22
J. K. Miller, Buick 2:56

Huntsville Owners Form a Club.

With a membership of 26 the automobile owners of Huntsville, Ala., on July 2d, organized the Huntsville Automobile Club. The officers are: President, Dr. J. G. Burman; vice-presidents, Sterling P. Metcalfe and Mrs. Mary Turner Clanton; secretary, Mrs. R. E. Smith; treasurer, Mrs. R. T. Baugh; chaplain, Rev. Francis Tappey.

Oklahoma Organizes State Association.

The Oklahoma State Automobile Association formed "to prevent oppression of or discrimination against its members," and to secure uniform legislation, has taken out incorporation papers. Lieutenant-Governor G. W. Bellamy, of Oklahoma, is one of the incorporators. The others are E. E. Blake, F. H. Wright, R. S. Trulock, G. W. Compton, E. D. Humphrey, and H. Harms.

A. A. A. DECIDES TO STAND PAT

Important Action of Central Conference Committee—Unanimous Decision to Retain Vanderbilt Cup Rules.

A proposal to curry favor with foreign racing interests by so modifying the conditions governing the forthcoming Vanderbilt Cup contest as to fall in line with the Ostend rules, was rejected at a meeting of the Central Conference Committee, representing the American Automobile Association and the American manufacturing bodies, held in Buffalo, N. Y., Tuesday of this week, 14th inst. The action followed a suggestion made in Paris to the Committee on Foreign Affairs of the A. A. A., to the effect that the recent action of the foreign clubs in refusing to sanction the event, would be rescinded if the racing board would consent to hold it under the conditions already in vogue abroad. In thus determining to stand pat on its original plans, not only are the American makers who are preparing cars for the race relieved of considerable anxiety and a deal of needless expense which otherwise would be incurred, but the dignity of the governing body itself is considerably enhanced.

Among those present at the Buffalo conference, including representatives of the National Association of Automobile Manufacturers and the American Motor Car Manufacturers' Association, were president Thomas Henderson and General Manager S. A. Miles, of the former body; E. R. Thomas, Chairman Jefferson De Mont Thompson and A. R. Pardington, of the A. A. A. racing board. S. D. Waldon and H. D. Chapin also represented the manufacturers. The decision rendered was taken only after a lengthy discussion of the situation, and was unanimous.

It was the spirit of the meeting that any other action than that taken would be unfair to the American makers, since it would not leave them sufficient time to build cars to conform to the changed rules. Further, the idea of a possible change of method in making up the foreign rules for another year also was taken into account. The hope was expressed, however, that in the event of possible recognition of the validity of the position of the A. A. A. in the future, a uniform method of car rating might be agreed upon.

Meantime, it is again announced that an "international flavor" will be imparted to this year's Vanderbilt race by the presence of several foreign cars, no less than four of which already have been entered. The course has already been selected, and is 25 miles long. As has been announced, it will be partly on the newly completed section of the Long Island Motor Parkway, and partly on local, State and county highways.

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CAREFUL CHAUFFEURS WIN CHECKS

Remarkable Records Made in Long Contest for Winton Prizes—Frank Schneider Takes First Prize of $1,000.

When, in August last, the Winton Motor Carriage Co. offered cash prizes to the ten drivers of their new "Six-Teen-Six" who should show the best running records at the end of a year's use, it was not supposed that anything like 65,688 miles could be accomplished at an upkeep expense of $15.12½. Yet this remarkable showing has been obtained by totalling the records of the winners of the $2,500; which was the incentive for economical driving.

The conditions of the contest required that the contesting chauffeurs should render monthly reports of their mileage and up-keep, the reports to be certified by their employers; final affidavits were to be made both by owners and chauffeurs. Four newspaper men consented to act as judges.

First prize, $1,000, was awarded to Frank Schneider, chauffeur for Milton Schnaier, of New York. Schneider drove 11,683 miles in seven months, averaging 1,669 miles per month, at an upkeep cost of $12. Schneider's expense was not incurred until after the car had been driven 8,000 miles, and as no other contestant achieved this mileage without expense the judges were unanimous in awarding first prize to him.

The second prize of $500 went to Arthur Donovan, chauffeur for J. Axebrod, of New York. Donovan drove 7.570 miles in 3½ months—a monthly average of 2,162.8 miles, with no upkeep expense. The third purse of $250 was won by Harry Toomey, chauffeur for Harry S. Pickands, Euclid, Ohio. A record of 6,632.9 miles in 10 months, with absolutely no expense was his record. Toomey's report showed an expense of $284.85, but as this expense was incurred by an accident happening while the car was in the hands of the wife of the car owner, the judges ruled that it was not chargeable against either the car or the chauffeur.

The standing of the ten successful competitors in the order of their awards, is given by the accompanying table. Contestants whose totals erceeded 3,000 miles were awarded gold watches suitably engraved.

The Winton company has announced that the $2,500 contest for chauffeurs will be repeated in 1909, under conditions to be announced later.

Prize	Driver	Total Mileage	No. of Months	Average Miles per Month	Total Upkeep Cost	Average Upkeep Cost per Month
$1,000	F. Schneider, New York City	11.683	7	1,669	$12.00	$1.714
500	A. J. Donovan, New York City	7,570	3.5	2,162.8	0.	.000
250	H. A. Toomey, Euclid, Ohio	6,633	10	663.3	0.	.000
150	C. L. Bonner, Brooklyn, N. Y	6,806	8	850.7	3.	.375
100	J. Boice, Atlantic City, N. J	6,183	7	883.3	.025	.003
100	A. R. Cowperthwaite, Newton Center, Mass.	6.114	4.5	1,358.5	0.	.000
100	J. Arnold, Chicago, Ill	5.535	6	922.5	0.	.000
100	J. Townsend, Elkins Park, Pa	5.415	6.3	855.4	0.	.000
100	G. W. Butler, Chicago, Ill	5,155	3.2	1,628.2	0.	.000
100	E. C. Knapp, Buffalo, N. Y	4.594	5.5	835.3	.10	.018
	Totals	65.688	61	1,076.8	$15.125	$0.25

Where Automobiles Make a Horse Useful.

By using a horse to pull automobiles to and from the washing stand, and for moving them about the garage, the proprietor of the Zacharias garage in Asbury Park, N. J., estimates that he can save $800 a year in salaries alone. Zacharias has been using this method for transferring cars for about a month and finds that the horse does the moving in about one-third of the time required by the four or five men necessary to move a car. The horse moves the cars with little difficulty.

The plan for moving the cars is very simple. A large hook is attached to the front of the car in taking it to the washing stand. A man is at the wheel and when going to fast the brakes are applied to stop it at the right place. In returning a car to its section, the hook is attached to the rear of the machine and the speed with which it is drawn back enables the car to run to the side of the garage steered in by a man at the wheel.

Police Chief Resorts to Mild Measures.

Chief of Police Corson, of Swampscott, one of the fashionable summer resorts near Boston, Mass., has concluded that traps for automobile scorchers are useless, and he has decided upon a better plan of securing observance of the speed regulations. When an automobile is seen going at a speed that is thought to be greater than the law allows, its number will be taken. The automobile register will be consulted, and the next day the owner will receive a notice that reads:

"Mr. ——. Dear Sir: Your automobile was going at a high rate of speed on (date) on (street).

"This notice is sent you to request you to be more careful in this town in the future. If not, we shall be obliged to prosecute."

Of the 2,150,000 miles of highway in daily use by the greater number of the inhabitants of this country, nearly 2,000,000 miles are earth roads.

MITCHELL CLAN MAKES MERRY

Second Annual Jubilee of California Owners Bigger than the First One—Ladies Compete in Hill Climb.

The second annual jubilee of the "Mitchell family" as the owners of Mitchell cars in California are designated collectively, held on July 2, 3 and 4, was a bigger success than its inaugural last year. While the first annual jubilee of the whole doggone Mitchell family was a success, since that time the family has been much blessed and multiplied, so that this year's reunion was marked by as large an outpouring as would a reunion of all the Young and Smith tribes in Utah.

Nearly 100 cars went from San Francisco to San Jose on July 3, and this number was augmented at the rendezvous by the arrival of other big Mitchells and the little ones as well from other California cities. San Jose's doors were thrown open wide to admit them and when the annual hill climb on Alumn Rock hill on Friday, 3d inst., was called the family was still arriving.

The course for the hill climb was a mile in length and as there was no trade rivalry to contend with the event was one of pure sport. Thirty-two drivers tried for the prizes offered in seven events, a large number of them being women.

Mrs. J. W. Skinner, of Stockton, started the ball rolling when she won the 1908 touring car class by driving her car up the incline in 1:21. John R. Chase, of San Jose, was second. L. Brassey, of San Jose, took the next event, for touring cars made prior to 1908, by covering the distance in 1:19. F. E. Hebbard, Santa Maria, was second and E. P. Lion, San Jose, third.

Another woman carried off the prize in the 1908 roadster class, Miss Marion Walcott, of San Francisco, doing the stunt in 1:34⅗. W. H. Pomery, of San Jose, was second in 1:35 and W. W. Wilson, San Francisco, finished third. In the runabout class for cars made prior to 1908 Dr. C. E. Mitchell, San Francisco, won a signal victory in 1:43⅕. Dr. R. L. Rigdon was second and H. O. H. Shelly third.

The ladies class for cars of any model was captured by Miss Walcott and Mrs. C. J. Brodie, won in the ladies' touring car class. Miss Walcott's time was 1:34⅗ and Mrs. Brodie climbed the hill in 1;26⅗.

The program for the Fourth consisted of a run from San Jose to Del Monte, and over 300 cars took part. In the evening there was an elaborate banquet, fireworks and a dance. The only sporting feature at Del Monte was a 17 miles speed judging contesst. The time schedule was 1 hour 30 minutes, and two drivers—Hugo Miller and Fred Edwards—made absolutely perfect scores by coming in exactly on the dot of time.

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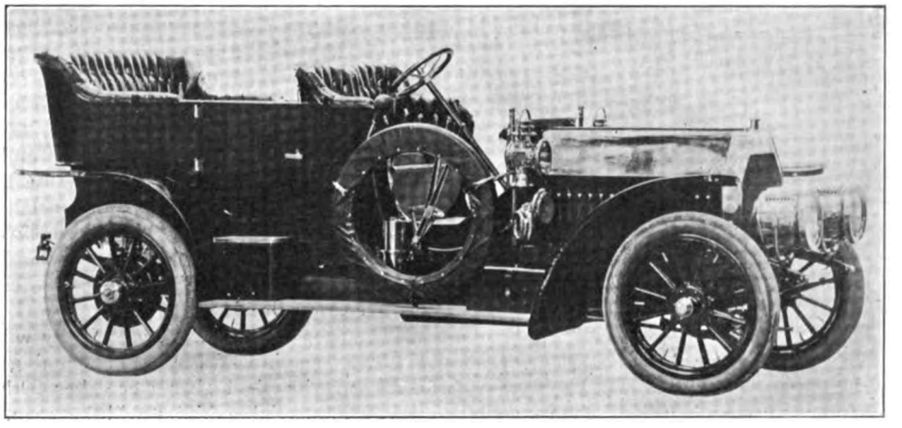
ORIGINALITY IN THE METEOR

Special Features in Car That Relatively is a New Comer—Sturdy Type of Medium Powered Vehicle.

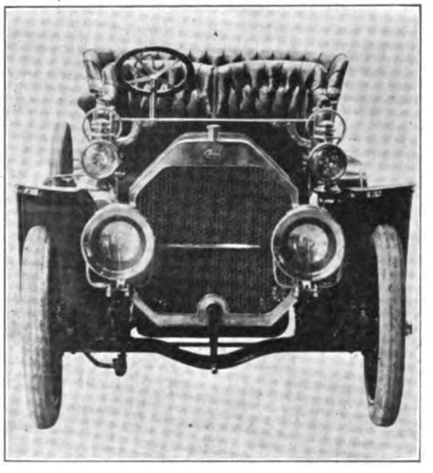
Among the cars which are to be reckoned with as relatively new comers in the field may be numbered the Meteor, which its makers, the Meteor Motor Car Co., Bettendorf, Iowa, have dubbed, "the car that does things." In earnest of the good intentions which lie back of the product, it should be added that though the car is practically a new comer, it represents no less than three years of work prior to its introduction. Of the machine in general, it is a sturdy representative of just over the medium powered class, selling at a figure just over what has come to be called the medium price. As the illustrations show, it possesses several original features, while conforming in general to standard specifications.

The motor, which is of the conventional four-cylinder vertical pattern, has cylinders of 5 by 5½-inch dimensions, valves disposed on opposite sides, and a special form of outer jacket wall permitting the use of large flat cover plates on either side, ensuring ample room for cleaning the castings and for inspecting the metal. The cylinders are cast individually from a special grade of hard, close-grained iron. The pistons are cast from the same material and are fitted with four packing rings, three at the top and one at the botom, in addition to which two oil-grooves are provided to assist in the distribution of the lubricant. The crank shaft is cut from the solid billet, is of specially heat treated, chrome nickel steel, and runs on five large bearings, ground to size. The cam shafts, which carry drop forged cams, keyed in place, are mounted within the crank case. The oiler and magneto gears as well as the pump transmission, run in oil. They are placed at the front end of the motor.

A commendable feature is the method of placing the magneto and lubricator, which are located at the back of the motor, as shown in the accompanying views, and directly under the foot board. They are therefore perfectly accessible at all times, and may be inspected without raising the hood, and merely by lifting the toe board.



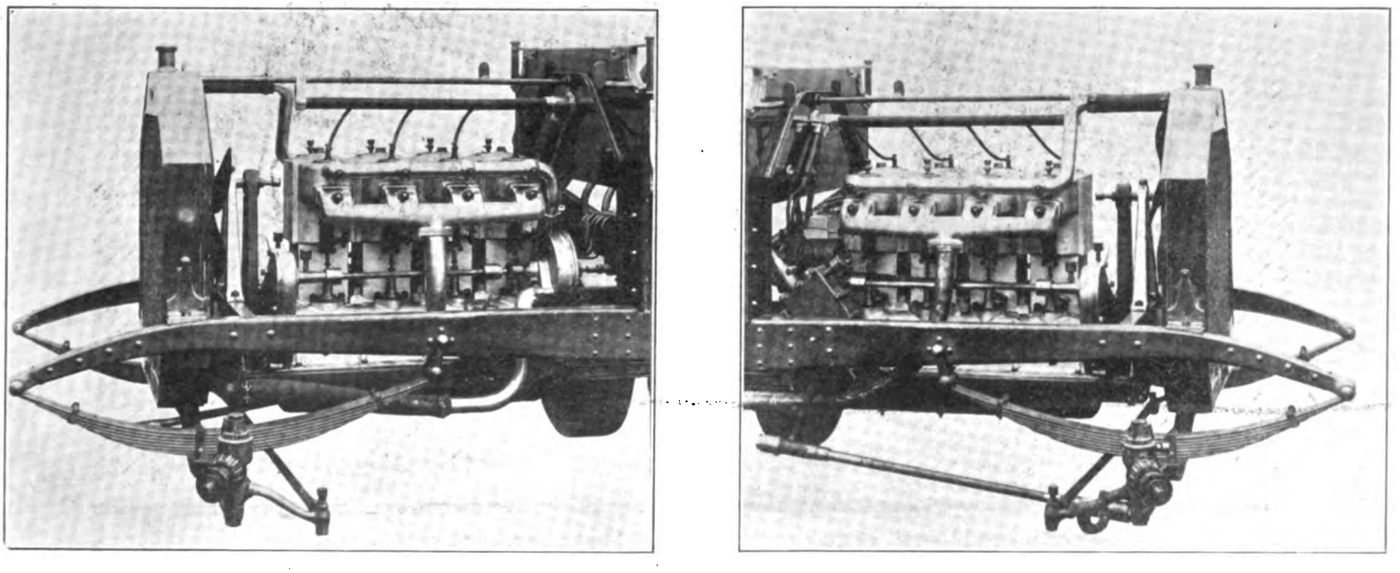
METEOR CAR, SIDE VIEW



METEOR CAR, FRONT VIEW

Dual ignition is employed, the system including the Eisemann low tension magneto, batteries, and coils. All wiring is enclosed in black fiber tubes, running along the front side of the dash and over the cylinders, whence the separate connections are taken to the Eisemann magneto plugs, which are placed over the intake valves. The switch and compression release valve—the latter affording a relief of 60 per cent. of the compression—are the only devices mounted on the dashboard.

Transmission from the motor is through a special form of multiple disc clutch, enclosed in the fly wheel and running in oil. Provision for adjustment is made in the shape of four studs with lock nuts, which project from the rear side of the casing. The change gear group is of the selective



POWER PLANT OF THE METEOR CAR, SHOWING LOCATION OF MAGNETO AND LUBRICATOR

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type, affording three forward speeds, besides the reverse, the third and highest giving a direct drive with all gears idle. The final transmission is through a propeller shaft, so designed as to work through a driving angle of about 2½ degrees, when the chassis is loaded to its normal capacity. The rear axle is of the floating type, of chrome nickel steel construction, and equipped with internal and external brakes, which are applied through balance beams.

The front axle is of I-beam section, mounted, like the other, on Timken roller bearings, even to the steering knuckles. The pressed steel frame is arched in the rear to afford the required clearance over the axle. Semi-elliptical spring mounting is employed in front. The members are 40 inches long. The rear mounting is of the platform type. The wheel base is 120 inches, and the wheels are 34 inches in diameter, shod with 4½ inch tires, front and rear. The total weight is 3,000 pounds.

The body, which is of long, easily drawn outline, is of 5 pasenger nominal capacity, with sufficient additional room in the tonneau for a couple of extra seats. Such relatively minor matters as fender and running board design, upholstery and body trim—the latter being of Circassion walnut wherever exposed—have been followed out in close detail.

Paris Salon to be a Tandem of Shows.

The Paris Salon this year practically will be two successive shows, with a week's intermission between the two. The expense of erecting a huge temporary building, as the growth of the industry made necessary for the salons of the past two years has been the determining factor in the change. Instead of holding the exhibition of industrial motor vehicles, motor boats and allied industries coincidentally with the show of pleasure cars, motorcycles, bicycles and accessories, the latter will open on November 28th and continue until December 13th, in the Grand Palais on the Champs Elysees. Following its close the Palais will be prepared for what practically will be a second section of the salon, opening December 22d and closing December 29th, at which industrial exhibits will be seen.

Maine's Income from Registration.

According to figures given out at the office of the Secretary of State, of Maine, the sum of $1,110 was received for automobile registration for six months ending July 1st of this year. For the same period the receipts from operators' licenses were a little in excess of the amount received for vehicles, being $1,208. Dealers' licenses added $180, and from registration of motorcycles came $126; making a grand total for six months of $2,624. The fee charged for the registering of automobiles and motorcycles and licenses to operators is $2. and for dealers' license $10.

Firestone Shows Its Credentials.

An instructive pictorial display of the commercial vehicle branch of the industry is afforded by a booklet of testimonial letters just issued by the Firestone Tire & Rubber Co., Akron. O., and containing illustrations of some 40-odd vehicles of different manufacture and different purpose, suggestively arranged. The accompanying letters, of course, sing the praises of the side-wire tire under various conditions of use. The latter portion of the book is devoted to similar matter, relating to the use of these tires for fire apparatus.

How One City Official Gets His Car.

Usualiy the purchase of a motor car by a municipality involves the making of a special appropriation for the purpose. The city electrician of Cambridge, Mass., however, has evolved a method by which an automobile may be obtained without any action by the financial committees of his city. He has brought about economies in the administration of the affairs of his department and by so doing has saved enough money to pay for a motor car.



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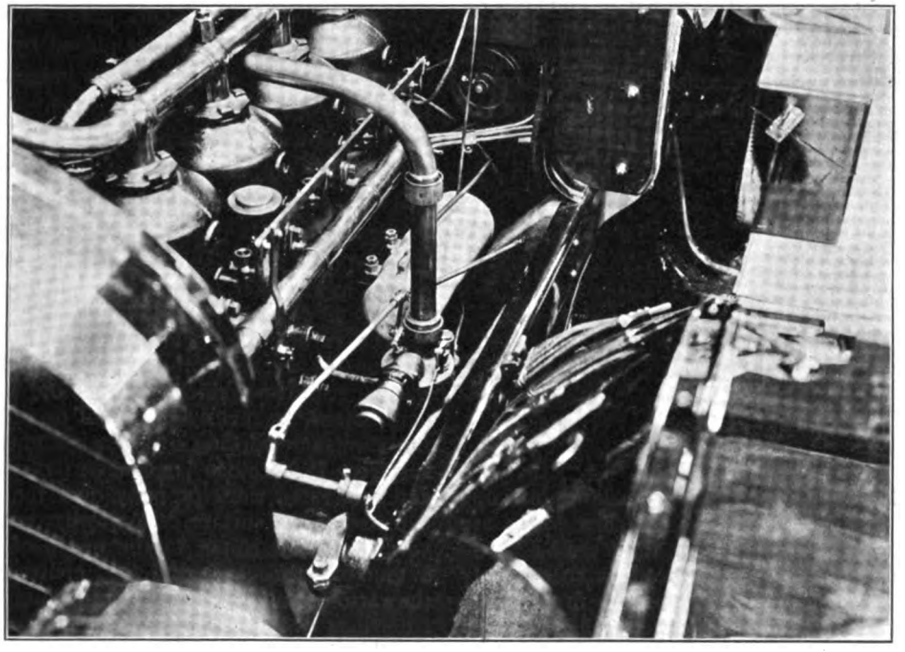
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FEEDS FUEL ON STEEPEST GRADES

Ramblers Now Equipped with Supplementary Tank—Furnishes Independent Flow of Gasolene in Emergency.

Years ago—that is about 10 years ago—it was not an unusual sight to see automobiles going backward up steep hills. The reason for this mode of crab like travel lay in the fact that many gravity tanks were so situated in the machine that the incline of the car on steep ascents placed the carburetter above the level of the gasolene with the obvious result that the fuel was not fed into the mixing chamber. Later designs largely overcame this defect, but even to-day it sometimes happens that on very steep hills, when the gasolene supply is low, the fuel cannot run by gravity to the carburetter.



RAMBLER ENGINE, SHOWING SUPPLEMENTARY GASOLENE TANK

With the knowledge of this condition, Thomas B. Jeffery & Co. now are building their Ramblers with a supplementary gasolene tank located above and behind the carburetter, considerably below the main gasolene tank. This supplementary tank will carry sufficient gasolene to run a car several miles up grade and is so arranged that it will flow into the carburetter on level or on a slight upgrade, but will not, under any condition, run back into the principal supply tank. The measurements of the tank are 4 inches in diameter and 10 inches long.

Costliness of Using Inferior Oil.

Economy in cylinder oil, either in its sparing use or in the purchase of grades which are chosen because of their cheapness, is a policy involving the error of "penny wise and pound foolish" action, according to H. E. Haws, of the George A. Haws Co., which manufactures Panhard oil.

"The importance of lubrication is not half appreciated," he says. "It is surprising how many will try to economize by buying inferior oils when the cost of lubrication is so insignificant as compared to the general cost of maintaining a motor car. There is no surer method of ruining a fine engine than by the use of an inferior lubricant and this policy of buying cheap oils is particularly foolish when a really high-grade oil can be bought for only a few cents a gallon more. It is a mistaken idea to suppose that all grades of oil are suitable for all grades of cars. We have gone into the subject pretty carefully and as a result of our experiences and tests, we like to recommend to a customer that particular kind of oil best suited to his motor."

Hub Caps that Require Watching.

Because of the small amount of attention which the wheels of the modern car ordinarily require, the average driver is apt to neglect to give them the necessary inspection. In many machines the hub cap is of no importance save as a dust protector and ornament. In machines having the rear floating axle drive, however, it is of the greatest use, since its removal releases the so-called hub-cap drive, freeing the wheel, and further rendering it possible for the driving stub of the differential shaft to work out, with consequent possibility of grave damage to the driving mechanism. On this account the condition of the caps should be watched very closely, and wherever possible, they should be secured from turning by means of locking screws set radially into the hub.

SIMPLY "A SUBSTITUTE FOR LEGS"

So Eames Defines the Electric Vehicle—He Estimates Its Mileage Capacity as of Neutral Importance.

Mere mileage capacity in its relation to the value of electric vehicles, a subject which was discussed at some length in the Motor World not a great while ago, is greatly over-estimated in its importance according to Hayden Eames, of the Studebaker Automobile Co., who concurs in regarding great mileage as a neutral recommendation by reason of other conditions which it implies. "A substitute for legs" is what he denominates the electric vehicle, and suggests that efforts to give it long distance abilities are generally attended with certain definite drawbacks which the average user cannot afford to overlook.

"We are hearing a good deal about electric vehicle mileage runs," he says. "Why is the unhappy public inflicted with a fresh outbreak of this kind of 'special performance'? Five or six years ago an electric car won a 185 mile race in France over competitors of all kinds. This was easily done, but the car was unfit for general use. It is not generally known that up to some six or seven years ago, the fastest automobile mile was made by an electric. The first road vehicle to make a mile a minute, was an electric automobile, but none of these qualities make for serviceability. An electric open vehicle is not supposed to do touring car or race track service.

"Anyone who buys an electric vehicle in comparison with a gasolene touring car must be misinformed, or at least fails to understand their respective applications. The sole ordinary application for an electric pleasure vehicle, is as a substitute for legs. It is strictly a convenience, and it should be designed with reference thereto. In these days of convenient and semi-automatic individual charging equipment, a provision in the design of an electric vehicle for mileage in excess of that required in its proper application, is simply wasted, and a positive disadvantage to the customer. Why should he be compelled to pay for a power plant to carry around a couple of hundred pounds more battery than he can possibly use? Why should he be compelled to maintain and renew 100 or 150 more plates of battery than he can possibly use?

"It is only by the addition of battery that additional mileage can be obtained without some other sacrifice. There are no mysteries to-day about the practical design of electric motors, of running gears, or even of storage batteries. Of speed and mileage there must be enough, but the popular conception that these have no limits of desirability, is entirely erroneous. The point is to design an electric automatic which best serves as a substitute for legs."

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ABOUT FRICTION TRANSMISSION

Where Watchful Care is Required to Maintain Its Efficiency—Some Errors to be Avoided in Driving.

While the average friction transmission is so simple as to require small attention in the way of upkeep, there is one point about it which should be watched with extreme care. In case the driving and driven shafts become disaligned, even though by a very slight amount, the effect will be to distort the pressure angle, bring the driving strains outside the plane of the disc, and besides tending to warp that member, cause uneven wear on the surfaces and reduce the amount of surface in actual contact at the driving point.

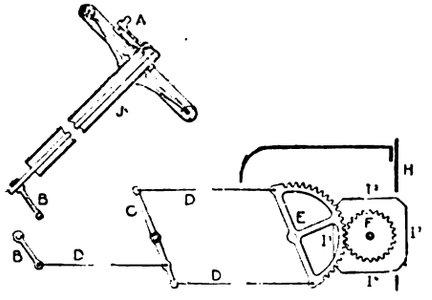
Another source of difficulty occasionally arises when the two shafts are warped or otherwise thrown out of the same plane so that the point of contact lies either above or below the center line of the shafts. In this case there is a tendency for the driven disc to creep either in or out on the driving member, tending to increase or diminish the speed of the car as the case may be, and, if this tendency is resisted by the locking device on the speed changing lever, proportionately increasing the strain in that quarter. In fact this matter of alignment, together with the need of keeping the working surfaces clean and in proper condition, involve all there is in the upkeep of this type of driving mechanism, except the lubrication of the shaft bearings.

While the extreme flexibility of the friction transmission is its greatest asset, care should be taken not to abuse this quality by too frequent use of the speed changing lever for braking purposes, or by attempting to change speeds too abruptly without altering the speed of the motor temporarily in order to "nurse" the gear into driving contact with as little slipping as is possible—as must be done with the ordinary type of sliding gear transmission. These practices cause undue slipping at the point of contact, with consequent abortive wear. The result is a reduction in the life of the parts, unsatisfactory service, and a general tendency to lose confidence in the effectiveness of the system.

Devices to Warn the Car Behind.

For the purpose of warning drivers of following vehicles of proposed manoeuvres on the part of the driver of a car, several different indicators have been devised. In the simplest of these, the mere act of declutching, causes a semaphore to be dropped automatically at the back of the car, thus exposing a sign with the word "Stop," printed on it. In others, the movement of the steering gear causes the indicator to announce the direction of a proposed turn. A recent French contrivance, which has been placed on the market by the Box Garage, a Parisian concern, however, differs from any of these in that it also provides a warning, as well as the stopping and turning signals, while, like at least one other which has been designed, it is operated manually, instead of by automatic means.

The mechanism by which this result is arrived at is sufficiently simple to be worthy of note, although it possesses the drawback of adding to the already over-complicated mechanism connected with the steering column. As shown in the accompanying illustration, the lever, A, which is mounted on the steering wheel beside the usual spark and throttle levers, is connected through a Bowden wire mechanism with a second lever, C, which, in turn, is connected to the sector, E, engaging with a pinion F, on the



indicator, I. By moving the lever into one or another of the four notches which are provided on its segment, the faces 1-2-3-4, on the indicator may be brought successively into registry with an opening in the back of the casing enclosing the mechanism, thus exposing them to view.

As used in France, the indications thus made available correspond to "Attention," "Stop," "Right Turn," and "Left Turn." The device is so contrived, however, that by a very slight alteration in its arrangement a greater number of signals could be employed, if so desired. Systems of this sort, while useful, especially for machines which are to be run extensively through closely crowded city traffic, lose something in value when they are not absolutely automatic, for otherwise their efficiency depends entirely upon the fidelity of the driver in actuating them. The value of this point is emphasized when it is further considered that when such a device is most needed, is usually at a time when the driver himself is fully occupied in taking care of some sudden emergency. At the same time, the arrangement here shown is sufficiently simple to be of some little suggestive value.

Keep the Fan Bearing in Condition.

Frequent attention should be paid to the condition of the fan bearing and its supporting bracket. Should they be permitted to become loose enough to throw the fan out of line, there is danger that it will scrape against the back of the radiator, tearing away the thin walls of the structure and doing an amount of damage which is totally disproportionate to the original difficulty.

IMPORTANT QUALITIES IN VARNISH

Special Requirements for Automobile Body Finish—An Expert Specifies Some Indispensable Characteristics.

How far the much desired richness of finish which characterizes the well made automobile body may be due to the use of a suitable varnish, the average user probably is not at all aware. That a considerable proportion of the lustre is obtained by properly skilled treatment, goes without saying. The important part played by the material itself, however, may be judged by the following requirements which have been set down by an expert:

"Working properties of varnish, its capability for working free and rich, and without a hitch in its power for flowing unrestrained over the widest expanse of surface, appeal to the user of the material, first of all," as he observes.

"The varnish that manages to meet the measure of working property demanded in the horse-drawn vehicle paint shop, may, and, indeed, frequently does, fail to satisfy the varnisher working over the automobile surface. It becomes lame, and 'sets up,' and refuses to work properly over the full expanse of the surface. Manifestly, such a varnish is ill adapted to the needs of the automobile finisher. And yet, contrawise, the varnish must have the gift of drying free from dust over night in apartments not invariably heated as the varnish maker suggests, or as the prudence of the painter would ordain. And to these virtues must be added that of fine brilliancy, with a richness of lustre, in fact, that goes down to the root of things and sets forth unmistakably all the deficiencies, big or little, which a careless or incompetent workman may have strewed in the way. Then there must be toughness of fiber, once the varnish has flowed to its position on the surface, and through the process of drying fastened itself there. And to toughness of fiber we must add elasticity, and its twin virtue, resiliency. For to meet the tremendous strain imposed upon the automobile surface, these properties must be present in varnish to an unbounded extent.

"Imperishability, that quality in varnish which protects its exposed film from the ravages of a thousand enemies, atmospheric and existing in the atmosphere, is another essential indispensable to the composition of the best automobile varnish."

To remove grease spots from the carriage cushion, wet the cloth with clean water and a sponge with a mixture ¾ ounce table salt and 2 ounces alcohol, either grain or wood. The time-honored recipe for revamping leather upholstery is raw linseed oil and turpentine used in the ratio of about 2 to 1.

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ANATOMICAL IDEA IN SUSPENSION

Principle of the Human Foot Adopted in New Foreign System—Details of the Method of Application.

It is generally recognized that the all-important question of tire wear is dependent to a very large extent upon the method of design and construction of the spring suspension. The possibility of ameliorating the expense due to this cause by improving the suspension of the body has long been appreciated, but the difficulty of discovering a proper method of attack is a stumbling block which is as equally appreciated. Interesting light is thrown on the matter by the Autocar which introduces the analogy of the human foot and its mechanical structure, in what is virtually a brief for the Victoria suspension a system which has seen some little use in England, and is well worth considering for its own sake. As a contribution to a difficult subject and one which is none too well understood, it is of further value.

By way of fundamental definition the author indicates that the broad question of suspension comprises a proper consideration of two basic and opposed factors, that is to say, "the weight of the chassis, body, and passengers, on the one hand, and the various road resistances on the other. Between the two," he continues, "is the tractive or rolling medium—the wheels. But, on the one hand, for the sake of traction efficiency, we must keep the wheels in as continuous contact with the road surface as possible. On the other, we must protect the chassis and its load from the road shocks. So it follows that we must introduce some elastic medium between wheels and chassis to secure their mutual independence as far as possible. . . . .

" . . . . In all conventional systems this elastic medium—to wit, the springs—is so introduced that the forces of chassis weight and road resistance are maintained in direct opposition, the lines of force being directly opposed along the same plane. Consequently, the action of the suspension—which is exactly that of a rubber pad or spring, set in a wooden leg to deaden the shock—does not alter the permanent relation of the opposed forces along that plane in the slightest. This fact alone almost suffices to prevent the desired independence of chassis and wheels, even with three point suspension, and certainly restricts the function of the springs to that of mere intermediate buffers, and a further consequence is that the very resilience of the suspension which gives it a receptive action gives it a rebounding one, which, occurring, as it must, along that single line of opposed forces, further restricts independence. Thus, we have that leaping 'hunting' action set up, which is naturally fatal to keeping the tires on the road surface at a continuous and even pressure. And it is just the failure to do this that is the chief factor of tire destruction.

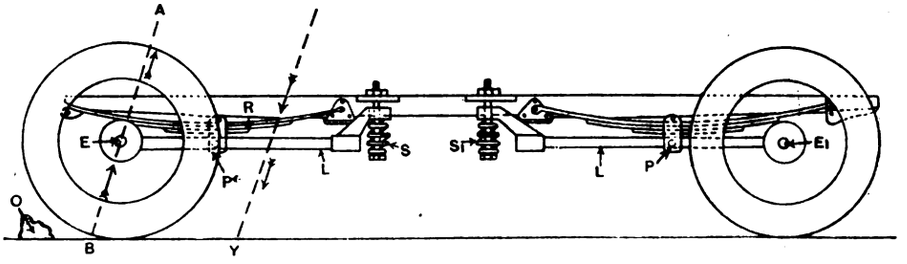
"So having seen in detail why conventional suspension systems fail to secure the independence of chassis and wheels, ... we must cast about for another method of dealing with the opposed forces. And the mechanics of the wooden leg having failed, what more natural than to consider those of the normal human foot, as in walking or coming to the ground after jumping?

"Now in this case, we have our forces balanced, instead of in direct opposition. That is to say, we have the stationary force (ground resistance) taken at the toe, which, with its joint, serves as an articulated point of adhesion—a fulcrum, in other words—for a rigid lever formed by the length of the foot. This lever supports the other opposed force—the weight of the body—somewhere about mid-length, and is enabled to do this by means of an elastic medium—the calf muscles—which are attached to the other end of the lever—the heel—as well as to the body, in both cases behind the line of the descending force.

"Actually that line bisects the lever midway, so, since the extent to which the body (force or weight) descends is regulated by the degree of muscular relaxation, it is clear that the two opposed forces are balanced at an oscillation point, floating, as it were, somewhere between their parallel opposed planes. It will also be obvious that, although the oscillation point never shifts, the extent of the lever oscillation can be varied to suit the strength of the opposed forces, because they are thus balanced. Also, that while the lines of force always maintain their parallel, they are free to approach or recede from each other, according to circumstances, in perfect independence because of this balancing. That is to say, their balance and independenct relation is unaffected, although the foot—the lever—be more or less extended or flexed according to the length of the step taken or the height jumpd from.

"So much for the mechanics of the matter; yet when we examine the results of its action we see that the point of adhesion—the toe—even when unshod, suffers no abrasion; nor, on the other hand, does the descending weight sustain any shock or vibration. But this, we remark, is the exact opposite of the results noticed in the action of the rubber padded wooden leg, in which the vibration is only lessened by the resilience of the rubber upon which the wear is consequently excessive.

"Now this compression of results, as applied to chassis suspension, certainly argues strongly in favor of the system of balancing the opposed forces, road resistance and chassis weight, upon, so to say, a floating oscillation point, as the true solution of the problem of tire maintenance. For it is clear that the independent relation of opposed forces thus obtained not only checks vibration and the transmission of road shocks, but also enables the tire at the point of adhesion to the road surface to maintain a constant and even pressure thereon, following all its contours. Therefore it follows that in the same degree as the failure of other suspension systems in this regard destroys the tires, the success of this one must preserve them.



"Hence the Victoria Suspension, invented by M. C. E. Kolb, 36 Rue de l'Arcade, which achieves all these results by a mechanical action exactly similar to that of the human foot, is not only extraordinarily interesting, but from its success in practice—as shown by a tour of several thousands of miles with a single set of tires which finished practically unworn—may be regarded as the most serious effort yet made to solve the tire upkeep problem in a mechanically accurate manner. For, as will be seen from the accompanying illustration of this system, the chassis and its springs are mounted, not upon the axles E-E1 direct, but in rocking joint P upon a tubular or pressed steel lever L, which is articulated to the axle E in a rocking joint at one end and supported at the other by the spring S, depending from the side member of the chassis. Thus the upward line of force of the road resistance A B is balanced against the downward line of force of the chassis weight X-Y at or near the oscillation point P.

"Now, when any one of the wheels meets any obstacle such as O, it naturally rises to surmount it, and in so doing would tend to compress the flat spring R and lift the chassis. Actually, however, this action is nullified, the spring R only acting as a shock absorber and supporter of the chassis. For the moment the effort or shock of the wheel rising occurs it takes effect upon the lever L, which oscillates at the point P, the weight of the chassis acting on the line of force X-Y to depress L against the pressure of the spring S or S1 at the other end. Consequently, the opposing forces of obstacle resistance and chassis weight are

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taken through the lever L by the opposed springs R and S, which compensate each other's action, and being thus deadened and nullified, the result is that the chassis is neither raised nor lowered. Thus the effect of shock and vibration is lost entirely, and the displacement of the axle E being entirely compensated by the action of the opposed springs, the tire and wheel simply roll over the obstacle at an unvaried pressure, absolutely independent of the chassis motion. The same result, of course, occurs when the wheel drops into a depression or hole in the road, the only difference in the action of the opposed springs being that the oscillation of the lever L releases the compression upon each simultaneously to an equal degree, the final result being the same in each case.

"But the achievement of absolute independence in the motion of chassis and wheels naturally connotes the elimination of all torsional strains. But a further interesting result of this system of suspension is that, although the wheelbase is lengthened some 60 c. m., the chassis is relatively better supported towards the middle than a chassis of equivalent wheel base suspended in the ordinary way. This, although the whole of its weight lies between the axles. . . . .

"It follows, then, from the foregoing results that the speed at which it is competent to employ solid or semi-solid tires instead of pneumatics is augmented from 30 per cent. to something not far short of 50 per cent., according to the weight of the chassis and body. Thus not only is the average touring car of medium weight driven at average touring speeds brought within the scope of solid tire usage, but an entirely new field of employment—and consequently an enhanced demand—is provided for a whole host of lighter vehicles, all because of the economy thus effected in tire maintenance. . . . .

"Here it may fittingly be pointed out that this suspension entails no special construction, but may be applied to any existing car by lengthening the shafting forward or aft of the gear box, according to whether chains or propeller-shaft transmission is used, together with an approximate lengthening of the brake rods, the fitting of suitably shaped hangers to the side members to take the middle springs, and the slight adaptation of the axles to take the rocking joints of the suspension levers. The whole conversion, in fact, should not cost more than $100 or $125, and should save its cost in tires in a year."

It should be understood, as he explains in conclusion, that his purpose is not to suggest the elimination of the excellent pneumatic, or to lessen the demand for it. Relative to this point he says that "on the contrary, it is intended to demonstrate a system whereby the innate good qualities of the pneumatic—now almost rendered latent by its defects—may be brought out to the fullest by the elimination of those defects."

SUGGESTS PERPETUAL MOTION

Philadelphia Inventor Makes Big Claims for New Motor—Carbonic Acid Gas Employed to Generate Power.

World-beating motors have appeared before now, but none, so far as is known, for which is claimed an output of anything like 100 horsepower from three cylinders, each measuring two inches bore and stroke—which is the claim advanced for the product of John Carroll, of Philadelphia, Pa., whose achievement is further signalized by the fact that it is actuated by the expansive force of carbonic acid gas. Although it is said that Carroll's efforts at perfecting this prodigy in miniature have extended over the past eleven years, it was not until early this week that they were sufficiently successful to permit of a public demonstration of the motor. At that time, mounted in the chassis of a well known make of small runabout, it proved to be perfectly competent to propel the machine over the paved streets of the city and up one or two trial hills.

While hints have been dropped from time to time to the effect that something of the sort was in progress, the extent of the exploitation contemplated was not suspected until the time of the demonstration, when it was announced that arrangements already are in progress to secure factory facilities for the production of cars propelled by the new motor, all of which are to be built in the City of Brotherly Love. It was further stated in the same connection that work upon them will be commenced immediately so that the cars can be ready to market in the fall. At present, the experimental work is being conducted in a shop in Filbert street, while the offices of the company are in South Penn Square.

Although the exact details of the invention are lacking, it is made to appear that the marvelous nature of the motor is not confined to its apparently disproportionate power production. From newspaper reports it is learned that its cylinder dimensions are 2 by 2 inches, as above stated; that each cylinder carries two pistons working in opposite directions and connected to the crank shaft through suitable linkages, and that the main portion of the device is cut from a solid piece of steel, its outside dimensions being 13½ by 10½ by 4½ inches, as well as that it is capable of developing no less than 100 horsepower. The valve motion is connected by direct and unvarying gearing, it is said, while the power and speed control is vested entirely in a hand throttle—no change speed gearing being required.

The truly wonderful part of the invention, however, is explained in the following paragraph, revealing a cycle of operations which, if the matter is not merely a dream, should cause the ingenious Carnot to turn in his grave:

"The power is furnished by a small tank which is filled with carbonic acid gas. This tank is connected with the engine, the gas going to the engine through a small copper tube about as thick as a lead pencil. When the gas has gone through the engine it goes back into an exhaust tank after passthrough which it is recondensed and flows into the first tank from which it originally came. In addition to these two tanks, there is an auxiliary tank for conveying an extra supply of carbonic acid.

"There is no light or heat about the Carroll motor," continues the description, "and therefore it cannot burn out or freeze. It can be run anywhere on the hottest or the coldest day. A chemical solution, which Mr. Carroll says is mostly coal oil, is used in the tanks to prevent the possibility of corrosion or oxidation."

If, as is implied by this, the gas is recondensed and returned to the original supply tank by the 13½ by 10½ by 4½ motor or some of its appended mechanism, it will be observed that an approximation to the long-sought perpetual motion has at length been achieved, since the process of recondensing the gas gives to it a supply of energy which was withdrawn previously by its expansion in the cylinders. This would constitute a marked improvement over the original proposition in connection with the use of carbonic acid gas, which was, to have the tanks charged at regular supply stations, very much as storage batteries now are charged for electric vehicle use.

Among other advances embodied in this contrivance, may be mentioned its economy of upkeep. Besides being so simple that a ten-year-old child can operate it successfully, it requires so small an amount of oil that it need not be lubricated oftener than once a month. In consequence of this and other factors, Mr. Carrol is credited with the estimate that "anyone owning one of these cars could take five or seven persons to Chicago for less than one dollar"—though it is not specifically stated whether such a journey would be from Philadelphia to Chicago, or from Evanston, Elgin, or some other less remote point.

Various Causes of Noisy Running.

An occasional source of noisy running in a car which has seen considerable use is a leaky condition of the various joints in the manifold and exhaust piping. This may be due to one of several causes. The muffler supports may have become loosened sufficiently to permit a slight amount of play; disalignment in the piping also may have been set up. A third cause of difficulty may be due to the blowing out of the asbestos packing in the gaskets, while warped flanges in the couplings, a choked muffler or a kinked outlet pipe also may be responsible for the condition—which in any event, should be remedied at once.

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AUTOMOBILE AS A FARM WAGON

How One Progressive Farmer Makes His Pleasure Vehicle Useful—Finds It Saves Time and Expense.

Chickens, milk cans, bags of grain, tools, young trees, the purchases in town, and any number of other things go to make up the loads that the busy farmer's automobile is called upon to carry during the course of the day. That type of agriculturalist who combines enterprise and business sense with an ability to run a farm profitably is proving a great friend of the industry and a good customer. It is no longer merely the city dabbler in "gentleman farming"—whose products are scanty and whose milk costs him more than champagne—that affects the motor car, but the more practical money makers, who are alive and keen for everything that will help them in their business.



MODERN FARMER STARTING ON TRIP TO TOWN

In addition to the special types of machines that have been designed particularly for the farmers' trade, there are several of the more "cityfied" style which have found favor because of their generous carrying capacity, their reliable running and their low cost of upkeep. The accompanying illustration shows a Rambler car in actual service on a farm, where for some time it has been proving itself more than worth several teams. The big dinner bell in the picture testifies as to its being a real farm, and the load on the back was not put there by a press agent.

The owner of the farm and the machine, in addition to tilling the soil, is quite a horseman, both as a driver and a breeder. Nevertheless he does not permit any maudlin sentiment over the horse to interfere with his enjoyment of the economical advantages in time and money which the motor car offers him as a means of transportation around the farm itself and in trips to and from town.

Movement to Aid International Travel.

With the laudable object of determining means "to regulate and facilitate automobile traffic from one country to another," M. Pichon, foreign minister of France, has proposed the convocationof an international conference to be held in Paris, probably in October and in conjunction with the International Road Congress to be held at that time. The movement is said to have originated through M. Barthou, minister of public works, on whom falls the burden of providing the necessary permits to drivers, both domestic and foreign, and who has been constantly pestered with appeals to relent in the excessive use of official red tape in this respect.

Whatever may be the difficulty incident to the various registration laws of the different States of the Union in respect to interstate motor traffic, motorists touring abroad are subject to even greater vexations owing to the lack of uniformity of the regulations of different countries, and to the great amount of time which must be consumed in complying with the necessary formalities. Obviously, an agreement for the universal recognition of driving permits such as is contemplated would be a matter of such great convenience as to be worthy of whatever consideration it may receive.

NEARING A GREAT LEGAL BATTLE

Former Governor Briggs to Lead Attack on New Jersey's Oppressive Law—He Considers It Unconstitutional.

Former Governor John W. Griggs, of New Jersey, has been engaged as chief counsel in proceedings begun by the motorists of that State to test the validity of the motor vehicle law distinguished by the name of Senator Frelinghuysen, the New York member of the New Jersey legislature. Prof. Charles Thaddeus Terry, of the Columbia University Law School, who is counsel of the National Association of Automobile Manufacturers and chairman of the A. A. A. legislative board, will be associated with Mr. Griggs in the suit that will soon be brought to test the constitutionality of the New Jersey automobile law.

The fight against the oppressive law will be made under the joint auspices of the Associated Automobile Clubs of New Jersey, the State organization of motorists, and the New Jersey Automobile Trade Association, in which are included practically all of the automobile agents, tire accessory dealers and garage keepers of the State.

It is Mr. Griggs' opinion that the present New Jersey motor vehicle law is unconstitutional and he believes it will be set aside by the United States courts.

Division Threatened in New Jersey.

As a result of dissatisfaction growing out of the management of State and National affairs by the Associated Clubs of New Jersey—an organization which was formed as a federation of the motor clubs of the State—the New Jersey Automobile and Motor Club is considering the advisability of withdrawing from the State organization. The question of withdrawal will be definitely settled at a meeting of the trustees of the club to be held to-night (Thursday). It is understood that the contemplated withdrawal does not preface a severance of relations with the American Automobile Association, despite a press rumor that such a move is contemplated.

That the New Jersey Automobile and Motor Club has not taken a more prominent part in the Associated Clubs' doings before, it is learned, is because its officials wished to give the smaller clubs every representation possible.

The action of the Associated Clubs last week in retaining John W. Griggs, former Governor of New Jersey, to bring suit to test the constitutionality of the New Jersey law is regarded as futile by many members of the Newark club, which has stood for a policy of construction rather than destruction, and tends to favor the expending of effort and money on the preparation of a model law to be introduced in the legislature next year.

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PROBLEM OF THE WASTED ENERGY

Solution Made Difficult by Limited Size of Engine—Shortcomings of Varied Attempts to Reach It.

It is a safe assumption that no one who has given the matter much thought has failed to recognize the desirability of economizing a certain proportion of the energy which ordinarily goes to waste in the internal combustion motor. Knowing that the purpose of the engine is to convert heat into work, and observing the amount of heat which is lost in the radiator and through the exhaust, it is perfectly natural to wonder why it is that so much energy is lost, and why efforts are not made to utilize this great amount of actual and appreciable waste.

As a matter of fact, this subject has attracted inventors and engineers for many years, and as the result of their labors a large number of schemes have been proposed for utilizing the waste, or what is the same thing, gaining added power from the same amount of energy developed in the gas. Just why none of these schemes have come into practical fulfilment, is another matter. In general, however, it may be said, that for motors of low power and necessarily compact construction, such as those of the automobile type, the power gained by the form of "economizer" chosen, is mostly absorbed in the added friction of the extra parts necessary to develop it, while the remainder is not of sufficient magnitude to warrant the additional weight and cost of the parts involved.

Many such systems are very fascinating in theory, at least, and in some instances, if applied to large power plants, might work sufficient saving to warrant their use. For the small motor, however, practically none have yet proved available in the broadest sense.

While the internal combustion motor is recognized as the most economical form of heat engine yet produced, speaking entirely from the standpoint of thermal values, the fact remains that its sources of waste energy are so evident as to attract the attention of even the non-technical observer in a way to provoke no small amount of wonder that they have never been reduced to lower terms. Thus, where in the steam power plant, the losses of energy due to heat radiation are distributed over the entire plant, beginning with the fire box and ending with the exhaust steam piping, or, perhaps, with the condensing mechanism, in the gas engine, the radiation loss occurs entirely in the cylinder itself. Where in the steam engine, it is customary, at least in large plants, to condense the exhaust steam, thereby adding to the power of the engine, in the gas engine the amount of energy thrown to waste through the exhaust is well advertised by the noise and by the special means which must be taken in order to suppress it. Nearly every one who has ever come into contact with gas engines, probably has reflected on the magnitude of these two losses, and has attempted to devise means of reducing them, or if not that, finds it difficult to understand why such means are not applied more generally.

The inevitable reflection when the motor fails to develop the required amount of power is, why must all this heat and power be lost? Why not use some of it, if not all, exactly as it has already been used in the engine? This idea of using over the exhaust, that is to say, "compounding," is one which received considerable attention a few years ago, with the result that at least two types of compound engine were designed. One such is still upon the American market, and has been proved to be economical of fuel, and to afford a good ratio of weight to power output. In all fairness, however, it must be admitted that a four-cylinder motor of the ordinary type, developing the same amount of power, would be more economical to run in the sense of upkeep, because despite the fact that it possesses one more cylinder than the compound type, which, in the case in point is of the three-cylinder form, all the cylinders are of the same size, and therefore are perfectly interchangeable, with all their connecting parts. The more uniform torque of the quadruple, as contrasted with the triple type of motor, also tends to the same result. The saving in fuel which is brought about by compounding, is so small as to be negligible, when considered in dollars and cents, even though it has considerable significance when expressed in percentages.

From the direct use of the motor exhaust by taking advantage of its expansive force in the cylinder, it is an easy and natural step to a similar application of its energy in other ways. Working along this line, at least one inventor has attempted to apply the turbine principle, merely directing the exhaust into a casing containing a rotor of such form that it would absorb the energy from the waste gases, converting it into work, and simultaneously cooling them. The power output of the motor was to be added to in this way. Unfortunately for this scheme, the turbine principle is not understood sufficiently well, even yet, to make possible a really practical application for low powers. Furthermore, as the rate of speed of the simple turbine must be very high, in order to utilize power so developed, more or less elaborate systems of reduction gearing must be employed, which, with their added weight in the vehicle, and their added friction load on the machine, tend to reduce the effectiveness of the additional power secured.

A scheme which, other things being equal, should work to more purpose than this, was proposed a year or two ago when the idea of locating some sort of a thermo-pile in the muffler and taking advantage of the electric current it generated for ignition purposes, was broached. The thermo-pile, which is little known outside the laboratory, be it said, is a combination of metals arranged in layers of plates, alternately coupled together and so constituted that when subjected to changes of temperature, an electric current is generated. The temperature changes due to the successive discharges of hot exhaust gases and the intermediate period of cooling between them, were thought to be sufficient to generate a current which could be used for igniting the gas in the cylinders of the motor. Nothing further has been heard of this scheme.

Although a large proportion of the heat generated by the burning gas is lost through the exhaust, another very large amount is wasted through the cylinder walls, being carried off by the jacket water, in motors of the most familiar type. To so arrange the jackets and the circulation of the water that instead of merely heating the water, it should convert it into steam, the steam to be used in actuating a special cylinder or cylinders, is an idea which has lured more than one engineer. Within a short time, patents have been granted abroad on a system in which this very idea is put into effect—but in motors of large power and size only. While the heat obtainable in this way might be sufficient for the generation of ammonia gas or some other vapor which is given off at a relatively low temperature, it seems doubtful whether steam could be effectively generated in this way in sufficient quantities to be of real use in increasing the power of the main engine. Certainly from the standpoint of the automobile designer, the necessary apparatus would be too bulky to be of value.

From the standpoint of closest theory, it may be said that any methods such as the foregoing, which seek to utilize the waste from the engine, are not destined to be extremely successful except in the case of large machines, merely because they require additional "plant," and additional mechanism means additional weight and friction. The most effective way of cutting down losses, is in the engine itself, by permitting the gas to expand as much as possible before releasing it, perfecting the mechanical details of the apparatus so as to reduce friction, and arranging the cooling system so that the cylinders will be maintained at a uniform temperature under all circumstances.

Loose Bolts Mean Lost Motion.

It is important that the bolts securing the carburetter to the frame or the engine base be kept securely drawn up. Otherwise there is danger of an accession of lost motion sufficient to strain the connections of the intake pipe and cause them to leak. The result of this is that the mixture will be "upset," and the proper amount of suction cannot be obtained at the jet.

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The Week's Patents.

12,787.—Reissue.—Acetylene Generator. Richard H. Weles, Kenosha, Wis., assignor to The Badger Brass Manufacturing Company, Kenosha, Wis., a Corporation of Wisconsin. Filed Nov. 19, 1904. Serial No. 233,540. Original No. 737,183, dated Aug. 25, 1903. Serial No. 130,537.

1. In an acetylene generator, the combination with a water chamber, of a generation chamber within and surrounded by said water chamber, a carbid receptacle within and wholly contained by said generation chamber, a water supply pipe extending across and through the upper end of said generation chamber and outside of the latter communicating freely with said water chamber, a water controlling valve communicating with said water supply pipe within the generation chamber and controlling and directing the flow of water therefrom to the underlying carbid receptacle, and a gas discharge pipe leading from said generation chamber, substantially as described.

886,506. Automobile. Henry K. Holsman, Chicago, Ill. Filed Feb. 8, 1907. Serial No. 356,393.

1. In an automobile, the combination with the running gears, of the steering wheel having its axle pivoted thereon, the body, and the steering wheel fender partly supported by the steering wheel and partly by the body so as to swing with the wheel.

886,508. Steering Device for Automobiles. Joseph Horat, LaFayette, Ind. Filed Oct. 22, 1907. Serial No. 398,622.

A steering device for automobiles and like vehicles comprising an operating shaft provided at one end with exteriorly located threads, a sleeve surrounding the threaded portion of said operating shaft and adapted to be actuated thereby, racks secured to both sides of said sleeve, toothed segments adapted to engage the racks, means for adjusting the racks towards and from the segments, means for securing said racks, a rock shaft actuated by the segments, and a housing to envelop said steering device.

886,519. Internal Combustion Engine James B. Knickerbocker, Indianapolis, Ind., assignor of one-half to Thomas A. Conlee, Indianapolis, Ind. Filed May 31, 1905. Serial No. 263,056.

1. In an internal combustion engine, the combination with a cylinder and piston, of an inlet valve leading into the cylinder, a jacket surrounding the cylinder, and a communicating passage between said jacket and the inlet valve, said jacket being provided with a plurality of inlet openings through which the air supply for the engine will be sucked, the area of the inlet valve being greater than the total area of the openings leading into the air jacket.

886,520. Automobile. Emil Koeb, Leipsic, Ohio. Filed April 24, 1907. Serial No. 369,919.

1. In an automobile, the combination with the main frame, an axle pivotally connected thereto, and ground wheels carried by said axle, of an auxiliary frame secured to said axle and having one end adapted to move in a vertical plane, driving mechanism carried by said auxiliary frame, and means for operatively connecting said driving mechanism to said ground wheels.

886,523. Spark Plug for Explosion Engines. Ellsworth A. La Har, Forestville, Conn., assignor to John B. Smith, New Britain, Conn. Filed Aug. 30, 1907. Serial No. 390,844.

1. A spark plug comprising a holding socket, having an internal seat, a tubular cap for said socket, an insulator complete in itself and a middle sleeve permanently connected with the said complete insulator, the said sleeve being fitted within the said socket and to the said seat therein for holding the insulator in the socket through the said sleeve.

886,526. Carburetter. Walter L. Marr, Jackson, Mich. Filed April 9, 1906. Serial No. 310,685.

1. In a carburetter, the combination with a float chamber, a float in said chamber, and means operated by the float for admitting liquid to said chamber, of an air chamber extending downward within the float chamber and closed at its lower end and open for the admission of air at its upper end, a nozzle member extending upward within the axis of the air chamber, a tubular member extending laterally from the air chamber and forming a passage adapted to lead to the engine cylinder, a member within the air chamber extending across the same and forming a continuation of said passage, a tubular mixing chamber formed integral with said last named member and extending downward within the air chamber, and means for regulating the admission of air to the air chamber.

886,527. Carburetter. Walter L. Marr, Jackson, Mich. Filed April 20, 1906. Serial No. 312,768.

1. In a carburetter, the combination with a float chamber, and a float in said chamber, of a gasolene chamber, a restricted passage connecting said float and gasolene chambers, a mixing chamber within the axis of the gasolene chamber, and a nozzle in the axis of the mixing chamber in free communication with the gasolene chamber.

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886,528. Motor Vehicle. Walter L. Marr, Jackson, Mich. Filed July 9, 1906. Serial No. 325,220.

1. The combination with the frame of a motor vehicle, of a motor supporting bed supported at one end upon the sides of said frame, means for pivotally supporting the opposite end of said bed to turn upon a horizontal axis extending longitudinally of the bed and yielding means at each side of said bed to resist its turning.

886,529. Explosion Motor. Armand Peugeot, Tony Huber, and Henri de Lostalot, Billàncourt, France. Filed May 6, 1907. Serial No. 372,259.

An explosion motor of two-stroke cycle comprising in combination a cylinder, a widened portion formed at the lower end of said cylinder, an opening formed in the widened portion of the cylinder, an admission opening formed in the middle part of the cylinder, a conduit connecting the said opening, a third opening formed in the cylinder for the escape of the gases, a sliding cover closing the cylinder immediately above the point where the piston stops, a hollow piston, an extension formed on the piston adapted to be surrounded and consequently cooled by the admission gases, and an admission valve arranged just opposite the opening formed in the widened portion of the cylinder, substantially as described and for the purpose set forth.

886,545. Carburetter. George M. Schebler, Indianapolis, Ind. Filed May 27, 1907. Serial No. 375,964.

1. In a carburetter, the combination, with the casing, having an air passage, a fuel nozzle in communication with said passage, and a fuel valve co-operating with said nozzle, of an automatic spring controlled air valve, a movable member coacting with the said fuel valve for moving the same, intermediate connections between said movable member and the air valve, and means co-operating with said intermediate connections, whereby the effect of the said movable member upon the fuel valve is varied at various points in the stroke of said movable member.

886,617. Vehicle Shock Absorbing Apparatus. Ralph M. Lovejoy, Meredith, N. H. Filed March 28. 1907. Serial No. 365,149.

1. Vehicle shock absorbing apparatus comprising a liquid chamber, an imperforate partition therein movable relatively thereto, means for connecting one of the said parts to the vehicle running gear and the other to the vehicle body, a buffer chamber, a liquid passageway connecting the liquid and buffer chambers, a valve in said passageway, and means for controlling the closing movement of said valve by the relative movement of the liquid chamber and partition.

886,938. Steering Gear. Alanson P. Brush, Detroit. Mich. Filed Jan. 30, 1907. Serial No. 354,813.

1. A steering mechanism comprising a steering shaft, a driven shaft in line with the steering shaft, an internal gear carried by the driven shaft, an external gear in mesh with the internal gear, an eccentric mounted upon the steering shaft to actuate the external gear, and means to hold the external gear from turning on its axis to cause the relative velocities of the steering and driven shafts to vary.

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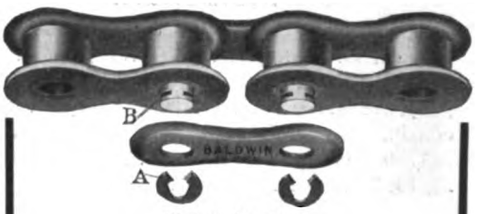
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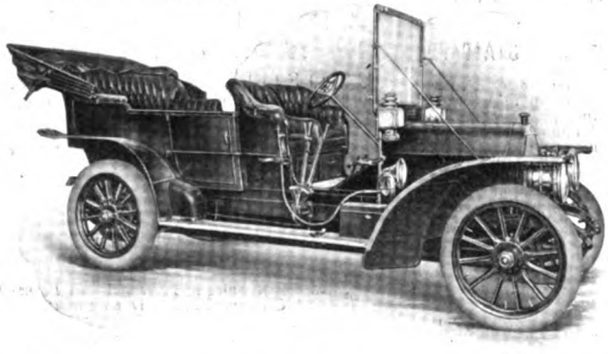
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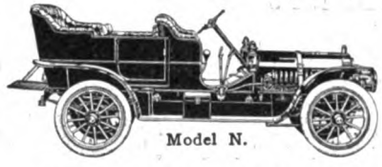
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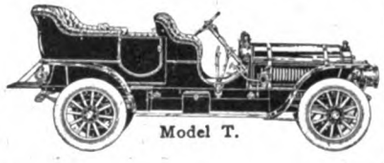
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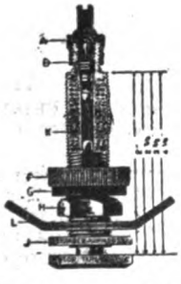
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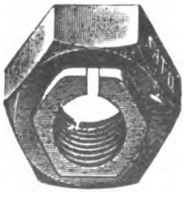
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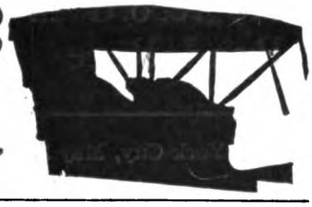
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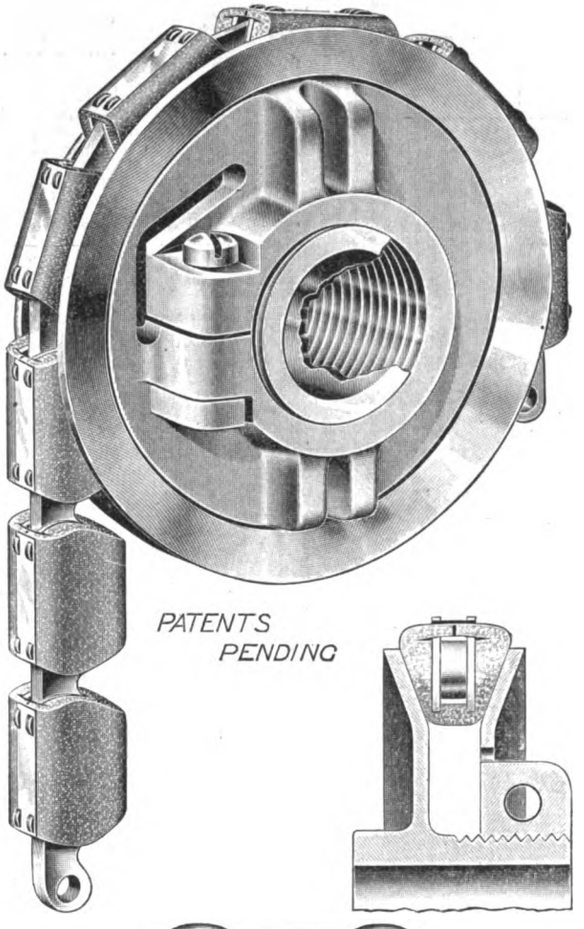
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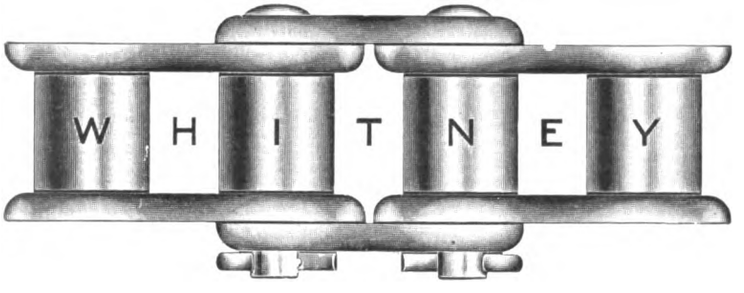
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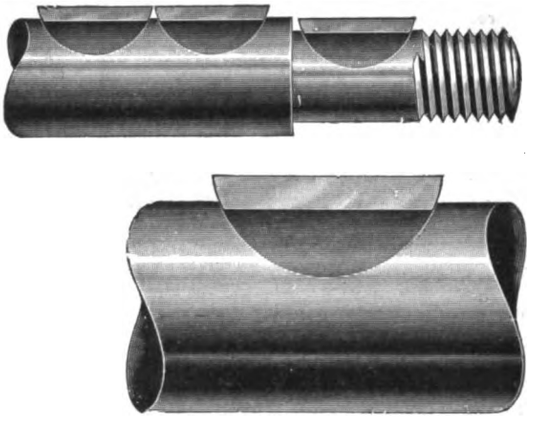
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All side plates on both sides on the Brampton Chain are stamped **"BRAMPTON."**

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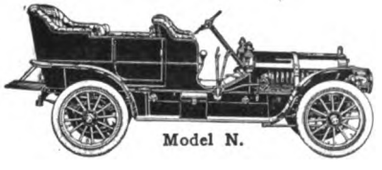
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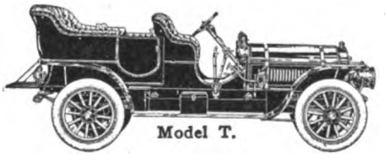
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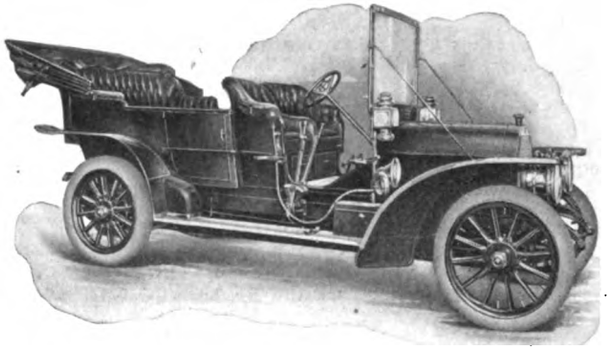

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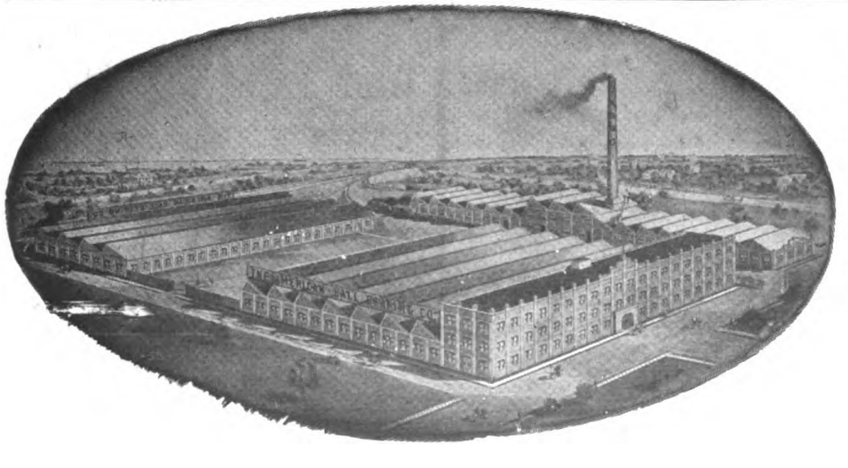
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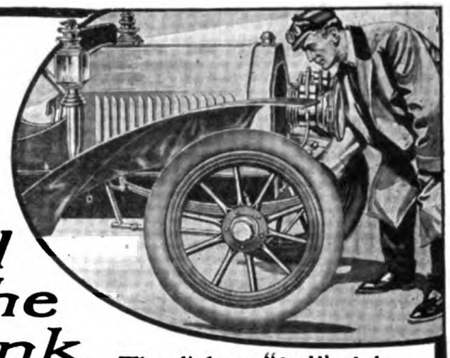
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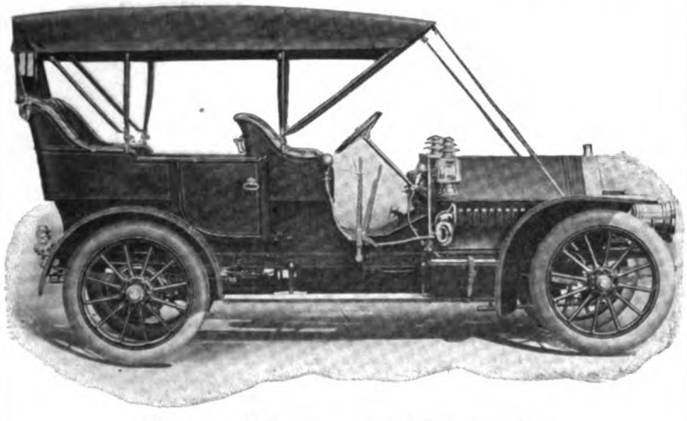
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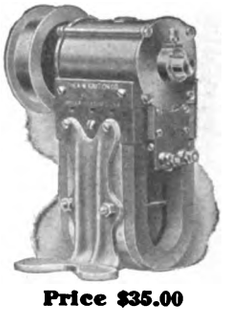
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Has bracket as shown for attaching to frame of car. Made especially

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More Power—Less Fuel

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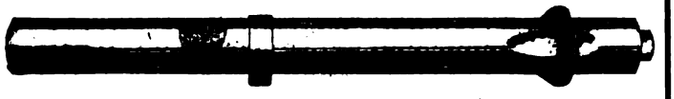
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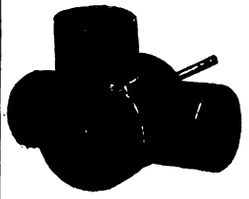
EVERY CAR that is equipped with

GABRIEL EXHAUST HORNS
GABRIEL CUT OUT VALVES and
GABRIE SHOCK ABSORBERS

has at least three points of excellence.



Gabriel Exhaust Horns produce every tone from p. p. to f. f. in either one note or organ effect at will and carry the sound farther than the ear splitting "just as goods."



Gabriel Cut Out Valves relieve the engine of back pressure so that all power goes to the wheels—they help wonderfully in speeding, hill climbing and over bad going.

Gabriel Shock Absorbers take up every shock that is too great for the springs. All three easily attached to any car. Write for catalog and prices.

Gabriel Horn Mfg. Co. 1417 East 40th Street CLEVELAND, OHIO

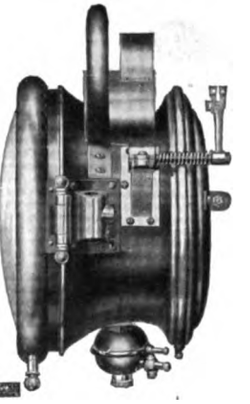
SOLARCLIPSE LAMPS

The Final Solution of the Lighting Problem is found in the

SOLARCLIPSE LAMP

This lamp throws two distinct rays—one of a far reaching, penetrating character, projecting a light over one thousand feet ahead, and the other a short focus ray which is thrown directly in front of the car.

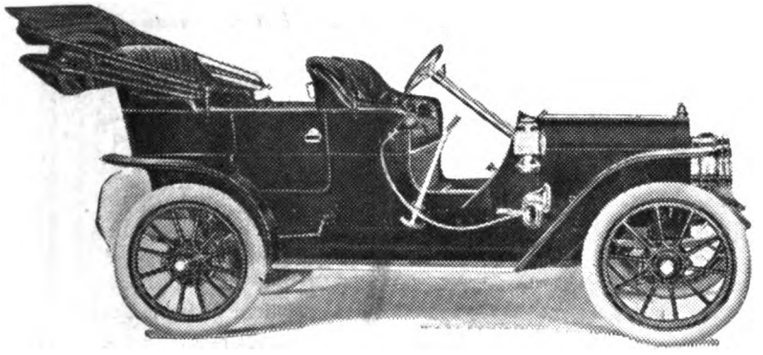
The driver is at all times in perfect control of the lights. Through the simple manipulation of a dash-board switch the long distance ray may be suppressed or thrown on at will. The SOLARCLIPSE has greater light giving qualities than any other lamp.



Complete description of the Solarclipse Lamp and Besnard System of Lighting in our 1908 catalogue. Sent free upon request.

BADGER BRASS MFG. COMPANY
606 Lyman Avenue, KENOSHA, WIS.

OAKLAND



Model B Touring Car, price $1,350.00. Full equipment, including two gas lamps, two side oil lamps, one tail lamp, generators, horn, tools, jack, pump and batteries. Top, $75.00 extra. Runabout, $1,300.

¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

¶ The live agent will find in the Oakland a car that appeals to a large and intelligent class of purchasers and that will justify the fullest confidence.

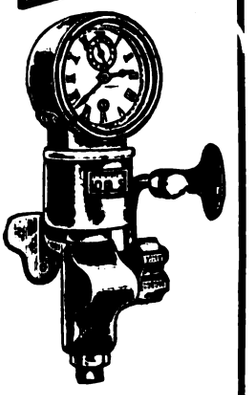
¶ Correspondence invited.

OAKLAND MOTOR CAR CO., Pontiac, Mich.

J. B. ECCLESTON, Sales Manager, 53 Franklin St., Buffalo, N. Y.

Warner Auto-Meter

GUARANTEED FOR ONE YEAR.



"Thirty Days' Free Trial"

When a manufacturer is willing to send his product to anyone, anywhere, for 30 days—with no deposit, no agreement to buy, no promise to do anything except give that product a fair trial—he must have more than ordinary confidence in his article. In order for him to have that confidence he must have a most extraordinary product.

That's what we do. We'll send an Auto-Meter to any automobile owner in the country—with no deposit, no agreement, no promise to do anything but put it on his car and give it a fair trial. It doesn't matter whether he has another make of speed indicator already on the car or not. Indeed, for the sake of comparison, we hope he has. We will abide by the decision—for he will always keep the indicator that tells the truth. We claim for the Auto-Meter that it is the only one of which "the dial never lies." We believe that the instrument itself is the most eloquent salesman we have—we're willing to let it do our talking. Send to-day just tell us what make and model of car you have size of tires, etc.—and we will send you an Auto-Meter.

Is Right
Stays Right
Accurate At All Speeds

WARNER INSTRUMENT CO.
226 WHEELER AVENUE BELOIT, WISCONSIN

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SUPPLEMENTARY SPIRAL SPRINGS



If every driver had to ride in his own tonneau, every car would be quickly equipped with Supplementary Spiral Springs. Owners are not intentionally selfish—many of them just thoughtless. Usually driving or sitting beside the driver, the riding qualities of the tonneau are to them practically unknown.

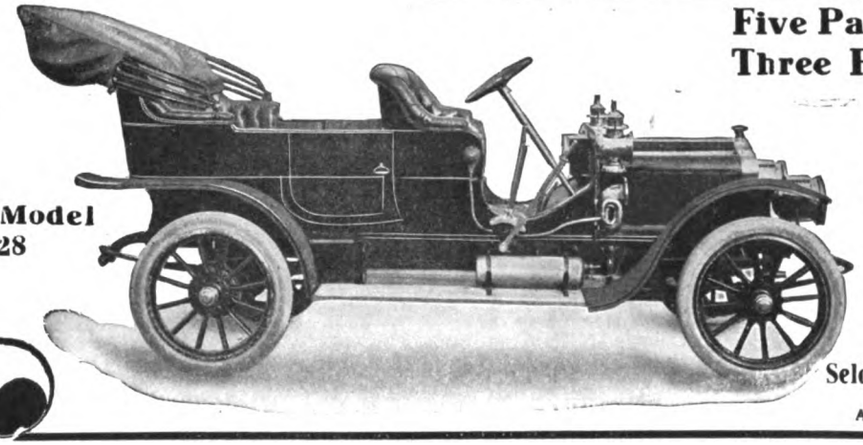
Not so with the passengers. Rear springs must be strong enough to resist severe shocks under a full load. That means stiff springs under ordinary loads, with the shocks and jars transmitted to the passengers—guests whose comfort ought to be a first consideration.

SUPPLEMENTARY SPIRAL SPRINGS take up all the average bumps and road inequalities and come into real action with the jolts and jars encountered at speed.

With the S. S. S., your springs never whip or touch. They prevent breakage and are the most economical and useful accessory ever provided for a car. Every live dealer carries them and their attachment is a matter of a few hours' time. Do it NOW.

Motor Mart, NEW YORK **SUPPLEMENTARY SPIRAL SPRING COMPANY** 4555 Delmar Ave. ST. LOUIS, MO.

THE SELDEN CAR



Model 28

Five Passenger Touring Car $2000
Three Passenger Runabout $2000

F. O. B. FACTORY

4 Cylinders, 30 H. P., 109″ wheel base, metal body, pressed steel frame, beveled gear drive, three speeds selective.

A great hill climber, smooth running, ample power, light weight, well-made, fine finish and already known as the "Silent Selden" because it runs so noiselessly.

New York Office and Salesroom, 41 West 63d St.

AGENCIES—H. C. & C. D. Castle, Boston, Mass.; Selden Motor Car Co. of Providence, Providence, R. I.; Genesee Garage Co., Syracuse, N. Y.; Wm. C. Barry, Jr., 72 North Ave., Rochester, N. Y.; Walter Hayes, 1116 Main St., Buffalo, N. Y.; H. G. Welsh, Hutchinson, Kansas; Crowe-Graham Motor Car Co., Portland, Oregon.

Selden Motor Vehicle Company, Rochester, N.Y.
Members A. L. A. M.
Agencies Wanted in Unoccupied Territory.

THE OLDSMOBILE

is not only the **World's Best Car,** but one of its oldest and most famous. It gives prestige to both owners and agents.

Model M	Model MR	Model Z
Touring Car, Fully Equipped,	"Flying Roadster," Fully Equipped,	6-Cylinder, 130-inch Wheel Base,
$2,750	$2,750	$4,200

OLDS MOTOR WORKS, Lansing, Mich., U. S. A.
Members A. L. A. M.

Canadian Trade supplied from Oldsmobile Co. of Canada, Toronto, Ontario.

TRENTON RUBBER MANUFACTURING COMPANY'S

THERMOID Brake Lining

WILL BE ON MOST CARS IN 1909—WHY? ASK THOSE WHO HAVE TESTED IT

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You *Can* Afford the $2000 Mitchell

—Afford to *buy* it because it is moderate in price.

We know you can afford to *keep* it, because we have many letters from users of Mitchell, testifying from actual daily experience, that it is the most economical car to *operate*. Before *you* buy a car, send for these letters and try a Mitchell in a 50 or 100-mile road test.

In demonstration, you'll notice not only that its style, finish and construction is equal to that of the extravagantly high priced cars, but that its *performance is too.*

Proof is easy, Mr. Business Man.

The Mitchell Agent will be glad to take you out at any time you say. Just call him up—no obligation on your part.

Try the $2000 Touring Car—the $2800 Limousine—the $1250 Roadster or the $1000 Runabout.

Get demonstrations of high priced cars and compare the Mitchell with them.

Call up the Mitchell Agent today and just say



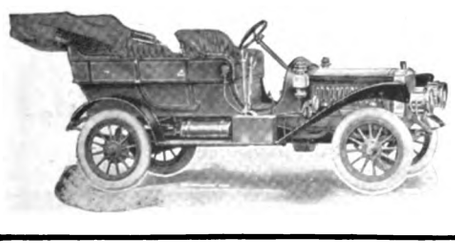
"Show Me"

The Mitchell Touring Car shown below is 35 H. P.—4-cylinder—speed, 50 miles—finish, Mitchell blue—price, $2000.

Write for Catalogue No. 18, describing the other Mitchell models.

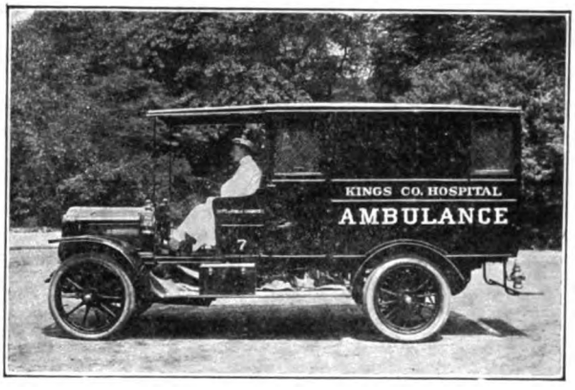
Mitchell Motor Car Co., 284 Mitchell Street, Racine, Wis.

Standard Manufacturers, A. C. M. A.



THE INCOMPARABLE WHITE

THE CAR FOR SERVICE



Write for White Bulletin No. 15

The above illustration is reproduced from the new White Bulletin No. 15, an attractive little booklet devoted to some of the more important automobile events of the last few months. The leading articles are "The New Road Record Between San Francisco and Los Angeles," "The Fort George Hill Climb," "The Quaker City Reliability Contest" and "The Harrisburg Reliability Contest." In addition to these four detailed accounts of White victories, brief space is given to the numerous minor contests in which the White has carried off first honors; also, the activities of private owners of White cars and the doings of "Government White Steamers" in this and other countries receive attention. We believe that you will find this booklet of interest.

A POSTAL TO US BRINGS A COPY

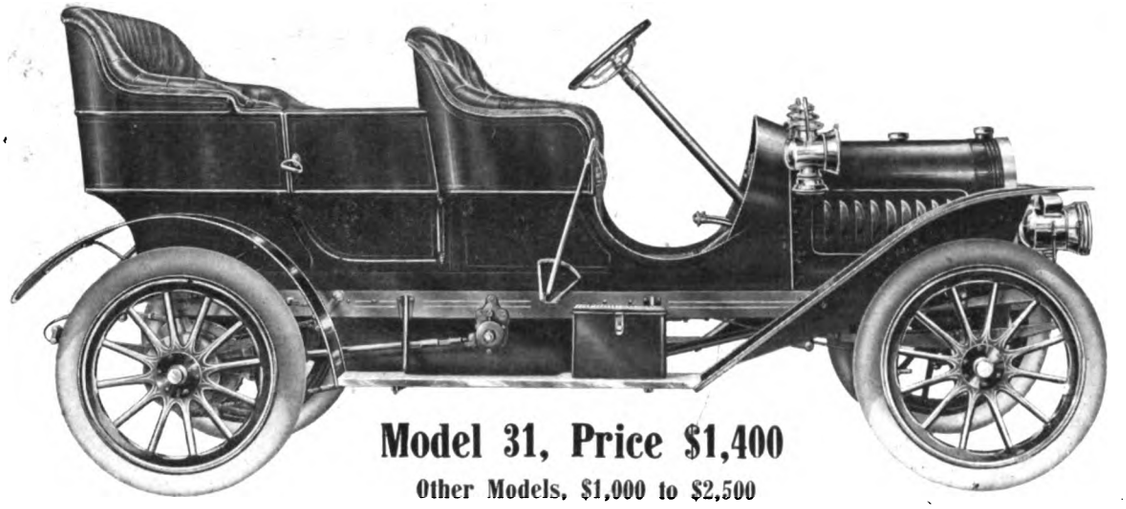
THE WHITE COMPANY

CLEVELAND, OHIO

PITTSBURG, 138-48 Beatty St. ATLANTA, 120-122 Marietta St.
SAN FRANCISCO, 1460 Market St. CLEVELAND, 407 Rockwell Ave.
NEW YORK CITY, Broadway at 62d St. BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St. CHICAGO, 240 Michigan Ave.

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Rambler



Model 31, Price $1,400

Other Models, $1,000 to $2,500

YOU can do all kinds of work with this car as a handy Runabout without the tonneau; then put the tonneau on and take your family or friends for a ride in a roomy Five-Passenger Touring Car.

Many exclusive features make it the most remarkable two-cylinder car in this country selling at $1,400.

The powerful engine makes it a hill climber; the long wheel and full elliptic springs provide great comfort; you glide over rough roads without a jar.

It is easy to care for and always clean because of the few moving parts and the enclosed power plant, impervious to dirt, mud and water, and oil tight with proper lubrication.

Immediate access to every working part is provided. The low cost of maintenance is due to simple construction, small fuel and oil consumption and protection of parts against injurious road material.

THE CAR OF STEADY SERVICE

A Postal will bring you the facts.

Please write your name and address and "Model 31" on a postal and mail to us today. You will not obligate yourself in the least

THOMAS B. JEFFERY & COMPANY, Main Office and Factory, **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, July 23, 1908. No. 17

SUES BANK FOR BUSINESS LOSSES

Allen-Kingston Wants $45,000 — Spent Money Advertising Cars That Were Never Delivered.

As a sequel to its relations with that troubled banker, promoter, sportsman, newspaper proprietor, automobile speeder, etc., E. Russell Thomas, the Allen-Kingston Motor Car Co. is suing in the New York Supreme Court for the return of $45,000 from the Consolidated National Bank and William O. Allison, Elverton R. Chapman and Thomas J. Lewis. The bill of complaint is such that the defendants made application to the court to have several of the allegations stricken out as scandalous, irrelevant and immaterial.

The trouble arises from the failure of the New York Car and Truck Co. to make and deliver cars to the Allen-Kingston Co., according to agreement. The Consolidated Bank and its officers, named as defendants, represented that the Truck company was a solvent concern, according to the complaint, instead of which it went into bankruptcy last March, leaving the Allen-Kingston Co. with its deliveries unfulfilled after the latter concern had spent considerable sums in advertising and salesmen's expenses.

An original contract, it is stated in the complaint, was made by Walter Allen on July 1, 1907, with the Kingston Motor Car Co., a Thomas property, for the delivery to Allen of 100 automobiles before April 15, 1908. Allen put up $15,850 as a deposit and then assigned his contract to the Allen-Kingston Motor Car Co., which was to sell the cars. The complaint says that E. Russell Thomas and Orlando F. Thomas gave Allen a guarantee at the start that the Kingston Motor Car Co. could deliver the goods, but that as it failed to do so beyond making six cars, it was proposed that the contract be turned over to the New York Car and Truck Co. for execution. Relying on the representations of the Consolidated Bank officials, the complaint recites, the plaintiff company and Allen agreed, on the distinct understanding that the bank was vouching for the financial responsibility of the Truck company. The latter concern was paid $17,000 for the six cars already made, and $9,150 was added to Allen's original deposit of $15,850, making a total deposit of $25,000 that the Allen-Kingston Co. had up on deposit, the complaint states. It further says that various advertising and other expenses were incurred to the extent of $11,500.

It is the $25,000 deposit, the $11,500 expenses and $10,000 in damages that the Allen-Kingston Co. seeks to get from the Consolidated Bank. A drawback of $1,500 on the six machines delivered is conceded by the plaintiffs. The complaint alleges that instead of being solvent and able to carry out such a contract as it undertook, the New York Car and Truck Co. was heavily in debt both to the Consolidated Bank and to the Hudson Trust Co., of which the defendant Chapman was president. It is also alleged that the bank owned a big block of the stock and was trying to help the company out of its difficulties.

One Chicago Show May Suffice.

Since the recent return of S. A. Miles from Europe the Chicago show situation's troubled waters have had hurried and liberal treatments of smoothing oil, and such vistas of concession and compromise have been opened that the likelihood of an "independent" show by the American Motor Car Manufacturers' Association has diminished almost to the vanishing point. N. H. Van Sicklen has been endeavoring to obtain the management of the latter show, but Miles is showing the possibility of all interests being well served in the one big affair, thus doing away with the necessity for two Chicago shows at this time.

A special meeting of the National Association of Automobile Manufacturers to discuss methods of space allotment will be held on August 5, at which time an all-day session is scheduled. Its results will probably quiet the two-show project.

PROMISE PROFITS IN "BLUE CABS"

Immense Taxicab Stock Flotation Backed by Prominent Men—Big Dividends on Ten Dollar Shares.

Practically the first extensive public promotion of a taxicab company in the United States is about to be undertaken by the American Taxameter Cab Co., with a capitalization of $1,500,000, divided into $10 shares on which dividends of 30 per cent. are unqualifiedly promised prospective investors. The company has an imposing array of names prominent both in the automobile trade and in general business, including F. D. Underwood, president of the Erie Railroad; A. F. Rockwell, president of the New Departure Mfg. Co., of Bristol, Conn., and of the Bristol Engineering Co.; W. B. Hurlburt, president of the Garford Motor Car Co., of New York; George W. Sweeney, president of the Hotel Victoria Co., New York, the La Fayette Hotel Co., Buffalo, and the National Hotel Co., Rochester; E. M. Tierney, president of the Hotel Marlborough Co., New York; F. E. Moskovics, well known in the automobile trade; James B. Coryell, president of the Cambria Coal Mining Co., Philadelphia; L. H. French, of New York, and T. H. McInnerney, of Rochester. These men constitute the board of directors, while McInnerney is president, and French, the vice-president. Offices have been established at 31 Union Square, New York.

"Blue cabs" are to be operated in New York, Chicago, Philadelphia and Washington. The machines are of the four-cylinder landaulette variety, seating four persons inside and two outside, and equipped with radiators for interior heating in the winter time. In addition to the regular taximeter service from hotels, restaurants, theaters, railway stations and the like, the company anticipates a large business from "the equipment of a number of chassis with special bodies, having the appearance of pri-

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vate cars, to be rented to private parties by the week, month or season."

"It is the company's intention," the prospective investor is informed, "to declare no more than 30 per cent. dividend on the stock at the end of the first year's operations. Although the earnings of the company are expected to be sufficient to warrant a much greater amount, it is deemed wise to maintain a large surplus for the purchase of additional equipment. There could be no safer investment. The cabs earn as soon as in commission. The management of the company is in the hands of practical business men of long experience in this business. The element of chance is entirely eliminated."

The intending stock purchaser is advised that the cab is operated "at very small expense and the comparatively low tariff charged produces surprisingly large profits." The present taxicab service in New York is declared to be "wholly inadequate to the demand and in other large American cities no effort has been made to install such service. In New York City there are only two companies operating gasolene cabs for public hire on a large scale. Their profits are enormous and no stock in either company is for sale. American capital is at present invested in taximeter service in European cities, drawing phenomenal dividends, even though the tariffs are much lower and the number of cabs many times greater than here."

Original economies in equipment are promised by the fact that the company is to use cabs of American manufacture, thus avoiding the necessity for paying the 45 per cent. import duty that is imposed on the foreign cabs and parts such as the other companies use.

Elaborate tables of figures are presented to show on what calculations the expectation of steady 30 per cent. dividends is based. According to the data obtained, the cabs average 51 miles a day, with 2½ hours waiting time chargeable to patrons, giving an average gross receipt of $27 a day. Each cab need only earn $4.55 per day, gross, it is estimated, in order to pay all the fixed charges and expenses, to put aside 25 per cent. for depreciation on equipment, and to pay chauffeurs' percentage. "All earnings in excess of this amount are available for distribution as dividends," which on the $27 per day basis will yield 149 per cent. profit.

The plan of operation would be an investment of $800,000 in 400 cabs; $30,000 in garage and shop equipment; and $40,000 in repair parts. The annual fixed charges for operating expenses are set at $248,560 and the annual depreciation of 25 per cent. on the cabs themselves at $200,000, making a total of $448,560. The tire cost is figured on a contract basis of 2 cents per mile for 4 tires, by special arrangement with a tire company, so that no heavy investment in tires is involved. Following the usual taxicab practice, each chauffeur would furnish gasolene for his cab at his own expense, and would receive 20 per cent. of its gross earnings instead of wages. The operating expenses would include advertising, garage leases, oil, repair parts, shop equipment, all help, supplies, insurance, the bonding of chauffeurs, license fees for cabs and drivers, and an ample provision for incidental expenses.

It is assumed by the promoters that 360 cabs, or 90 per cent. of the entire equipment, would be in constant commission, and the earning "possibilities" are presented in tabulations on an ascending scale, "beginning with the lowest probable amount per day which each cab might earn."

These tabulations are as follows:

With gross earnings of $8 each, per day, 360 cabs earn, per year	$1,051,200	
Tire charge on this basis	$26,280	
All other expenses, including depreciation	448,560	
Chauffeurs' percentage (20%)	210,240	685,080
Available for dividends		$366,120 or 24%
With gross earnings of $10 each, per day. 360 cabs earn per year	$1,314,000	
All fixed charges and expenses	777,060	
Available for dividends		$536,940 or 35%
With gross earnings of $12 each, per day. 360 cabs earn per year	$1,576,800	
All fixed charges and expenses	842,760	
Available for dividends		$734,040 or 48%
With gross earnings of $16 each, per day. 360 cabs earn, per year	$2,102,400	
All fixed charges and expenses	974,160	
Available for dividends		$1,128,240 or 73%
With gross earnings of $20 each, per day. 360 cabs earn, per year	$2,628,000	
All fixed charges and expenses	1,105,560	
Available for dividends		$1,522,440 or 100%
With gross earnings of $27 each, per day. 360 cabs earn, per year	$3,547,800	
All fixed charges and expenses	1,302,660	
Available for dividends		$2,245,140 or 149%

The figures are given as being based upon actual earnings "not only of other companies now in operation, but upon an actual four months' test made during March, April, May and June, 1908, with ten cabs." Five year contracts at prominent stands are said to be all arranged for. A further field for the company's activity is promised in the commercial field, in the establishing of a motor delivery system for retail stores. It is explained that "the company has already been approached by, and can at any time make contracts with, several of the largest New York stores for the delivering of goods. This department will be very profitable and will be a part of the present company."

The manufacture of the motors and parts has been given to the New Departure Manufacturing Co., of Bristol, Conn., and the latter concern is already busy at work on them.

To Make Taxicabs at Geneva Plant.

With a clear view of the field, another taxicab manufacturing concern has entered the lists, its name being the Cleveland Auto Cab Co., of Cleveland and Geneva, Ohio. The company has been incorporated with $150,000 capital, under Ohio laws, and has purchased the plant formerly owned by the Geneva Automobile Co., where the Geneva steam cars were at one time made. While the factory will thus be in Geneva, the general offices will be located at No. 318 The Garfield Building, in Cleveland. Actual work on the taxicabs will commence before long.

The officers of the company include G. W. Alden, president; L. E. Wing, vice-president and treasurer; and W. C. Lytle, secretary. While New York capital is chiefly represented, some local capital is also interested and S. D. Wetmore, mayor of Geneva, is among the directors.

Lamp Committee Reports on Prices.

Buffalo was the scene of a further meeting of the lamp makers on Tuesday of this week. A special committee of the M. A. M., which was appointed at the last meeting and which consisted of George Yule, F. E. Castle and E. J. Edmunds, reported to the lamp making membership their recommendations on uniform discounts to apply to the manufacturing, jobbing and retail trade. The recommendations have not as yet been decided upon for general adoption, although action is expected to be taken in the not distant future.

Gets License Separate from Thomas.

The Chalmers-Detroit Motor Co., which hitherto has been operating under the license of the E. R. Thomas Motor Co., of Buffalo, of which it was a part, was admitted to membership in the Association of Licensed Automobile Manufacturers on July 17, thus becoming a recognized independent entity. According to a statement issued by the Licensed Association, it is expected that the "policy of strengthening and enlarging the Association is only begun" in the admittance of the Chalmers-Detroit Co.

Allen Crossing the Atlantic.

Walter Allen, who has obtained control of the import of the Mercedes, sailed this week for a brief European trip. His visit abroad largely relates to arrangements for the coming year.

The Jonz Automobile Co. has commenced operations in Beatrice, Neb. The factory is now at work on a number of cars for the coming season.

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PRESIDENT DALE DIES SUDDENLY

Was Head of the Rubber Company Controlling Prominent Tire Concerns—His Rise and Career.

Charles H. Dale, president of the Rubber Goods Mfg. Co., died suddenly of heart disease at his summer home at Larchmont, N. Y., on Saturday morning last, at the age of 56 years. He has been ailing for several weeks, but a serious outcome was not anticipated, and the end came as a severe shock to his many friends.

Funeral services were held at Larchmont on Monday afternoon, and were attended by the executive officers of all the companies affiliated with the Rubber Goods Mfg. Co., and the directors of the United States Rubber Co. As a mark of respect, the different plants and branches of the Hartford Rubber Works, Morgan & Wright, and the G & J Tire Co. throughout the country, were closed during the entire day, and on Tuesday from 10.30 a. m. to 1 p. m., when the interment, which was private, took place.

In addition to being president of the Rubber Goods Mfg. Co., Mr. Dale was a director of the United States Rubber Co., the Merchants Exchange National Bank, and the Century Bank; and was a member of the Union League Club, New York Yacht Club, Larchmont Yacht Club, Automobile Club of America, and the New York Athletic Club.

In both business and private life Mr. Dale was an attractive personality, and was easily approached. He took more than a passing interest in the employes of the various companies under his control and placed implicit confidence in them. His associates revered and honored him as a man and friend, and many felt the influence of his disposition to help those around him.

His own career was an example of enterprise rising to success. After being graduated from the Cheshire Academy, Cheshire, Conn., he immediately started to carve out his own fortune. He went West and became interested in mining. About 30 years ago he went into the employ of the West Shore Railroad Co. and was in charge of the first passenger train over that line from New York City. After railroading for a number of years, he was attracted to the rubber trade and accepted a position with the Peerless Rubber Mfg. Co., taking charge of its railroad department. Finally, with several others, he purchased a controlling interest in the concern, which later was disposed of to the Rubber Goods Mfg. Co. Under his management as president, the Peerless company had become one of the largest and most profitable manufacturers of mechanical rubber goods in this country.

Succeeding Charles R. Flint, he became president of the Rubber Goods Mfg. Co., in this position becoming identified with the automobile and bicycle tire industries. He instigated the building of the new Morgan & Wright plant at Detroit, Mich., and practically reorganized all of the tire factories connected with the Rubber Goods Mfg. Co., these, in addition to Morgan & Wright, including the Hartford Rubber Works Co. and the G & J Tire Co.

Briscoe Entertains Maxwell Agents.

The branch managers of the Maxwell-Briscoe Motor Co. gathered at the main office in Tarrytown, N. Y., last week for their annual convention. Monday's program consisted of reports and discussions on business conditions throughout the country and an examination of the cars which constitute the offerings for the coming season. Tuesday was started with a "rubberneck" tour of New York City and in the evening Benjamin Briscoe gave the guests a banquet at the Cafe "Mar-tan," as the French proprietors insist "Martin" should be pronounced. After the banquet Briscoe disclosed part of a new automobile selling plan which is designed to be of great assistance to the agents.

Magneto Orders Crowd New Plant.

Magneto orders for the coming season are already testing the capacity of the new plant of the Remy Electric Co.'s plant, at Anderson, Ind. In addition to handling what is believed to be the largest single order for magnetos ever placed, that of the Buick Motor Co., the company has also on hand an order from the Overland Automobile Co., of Indianapolis, for 1,500 magnetos, together with several other large entire equipment orders.

Three Makers Join "Independents."

Two makers of buggyabouts, the Holsman Automobile Co., of Chicago, and the W. H. Kiblinger Co., of Auburn, Ind., have been added to the membership of the American Motor Car Manufacturers' Association. At the same time another member was likewise added, in the Midland Motor Co., of Moline, Ill., whose car is a product of the factory that formerly made the Deere-Clark.

Reeves Reappears at His Office.

Manager "Al" Reeves, of the American Motor Car Manufacturers Association, has so far recovered from his appendicitis operation as to appear at his office. A visit to Saratoga, N. Y., incidental to seeing the Glidden tour finish will break the force of his getting directly into harness again for serious business.

Butcher Takes Timken Territory.

H. E. Butcher, who until recently was at the head of H. E. Butcher & Co., manufacturers' agents at Detroit, Mich., has joined the forces of the Timken Roller Bearing Axle Co., of Canton, O. He will act as a traveling salesman for the company's products.

PERMITS TRANSFER OF POPE CASH

Connecticut Court Allows Receivers Money to Pay Creditors' Dividend—Reorganization is Expected Shortly.

Following the orders of the New Jersey court authorizing the receivers of the Pope Mfg. Co. to pay another or second dividend of 25 per cent. on all the approved claims, a hearing was held before Judge Howard J. Curtis in the superior court at Hartford, Conn., on Tuesday of this week on the motion to permit the receivers to transfer the necessary money to the control of the New Jersey court, in order that the payment may be made.

The lawyers for the receivers asked for permission to transfer $380,000. The receivers in Connecticut have $628,791.97 on hand, which together with all the money that they hold, a part of which will have to go to other jurisdictions, gives them a total of $1,378,000. Opposition was presented to the granting of the order for the transfer, but a compromise was finally reached whereby $300,000 is to be given over to the jurisdiction of the receivers in New Jersey.

Judge Curtis also passed an order giving the Connecticut receivers permission to carry on the business for four months from August 28. A complete reorganization of the company is expected to take place before that time, according to Arthur L. Shipman, one of the attorneys for the receivers.

Mitchell Agents' Midsummer Meet.

A "make merry" meeting of Mitchell agents at the factory in Racine, Wis., will be held August 27, 28 and 29, at which time the 1909 models will be shown and demonstrated. Agents from all parts of the country are expected and about 50 of the new cars will be ready for their inspection.

Have Stoddard-Dayton Date at Dayton.

Agents of the Stoddard-Dayton will foregather at Dayton, O., on July 29th, for a four days conclave at the factory of the Dayton Motor Car Co. The models for the coming season will be shown and the reasons for Stoddard-Dayton enthusiasm made clear.

Rapid Building a Big Addition.

Large additions to the factory of the Rapid Motor Vehicle Co., at Pontiac, Mich., have been started. A reinforced concrete building, 300 by 60 feet, is under way. This will make the sixth enlargement of the plant since it started three years ago.

The Michelin Tire Co.'s factory at Milltown, N. J., has for the last five months been running 24 hours a day. Present conditions indicate no relaxation in the necessity for night work.

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The Great Efficiency Run

Introducing the Model B

BRUSH RUNABOUT

DETROIT TO
1—Boston via New York.
2—Washington via Pittsburg and Philadelphia.
3—Kansas City via Cincinnati and St. Louis.
4—Minneapolis via Indianapolis and Chicago.
5—Chicago and Return in Delivery Car.
COVERING 14 STATES

Anticipating a considerable increase in our production (now 8 to 10 per day), we will, on the appearance of our Model B car this week, send four runabouts and one delivery car over the above routes in order to show this wonderful little car to all sections. With the detours necessary to cover good towns and agency points, the first four routes will be over 1,500 miles each, and the fifth about 750. No particular speed is required, though with the stops for demonstrations it will be necessary to move lively to complete the run in two weeks.

A silver cup and cash prize will be given to the driver who uses the least gasolene and oil per mile, and a complete record will be kept by the observers of all repairs and adjustments.

Observers have been selected among newspaper men. They will carry keys to the tanks and otherwise be given facilities for accurate checking of the performance. At the end of the tours an illustrated booklet will be issued giving exact data.

In connection with the tour the good roads movement will be pushed and good roads literature distributed. The Michigan State Highway Commissioner, the Hon. Horatio Earle, a notable advocate of good roads, will assist us in this feature, and we expect similar help elsewhere.

Mr. Fred Nash, the famous cartoonist and writer, will have charge of the publicity end of the tour and illustrate it with humorous sketches.

Many people have asked us

Why We Do Not Run in the Glidden Tour

Simply because this run will do us more good for money expended, as we can stop and demonstrate; because it covers over 400 good towns in the bulk of the good buying territory; because while run under normal touring conditions it is a more severe test than the Glidden tour, as no attempt is made to find good roads; because it will give the average performance of five regular stock cars instead of one specially prepared; because more people will see it and have time to look at it and it will thus benefit more of our dealers than scurrying along in a cloud of dust with a hundred other cars.

Announcements of the progress of the run will appear in such issues of the trade papers as appear during its continuance, and daily bulletins will be mailed to a list of those interested. Write us if you wish to be on this list.

The Model B Brush Runabout is a wonderful car. Wonderful in efficiency, in economy, in durability, in convenience. The price remains the same, $500 with solid tires, $550 with pneumatics, and $600 for the delivery wagon.

BRUSH RUNABOUT CO., Detroit, Michigan

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A Question of Safety.

It is noteworthy that the main purpose of the improvements in motor car construction which are now taking place is in the line of increasing the durability and safety of the machine. The problem of producing a motor of adequate power to propel a car of given weight, or of designing a transmission to carry that power through to the driving wheels, no longer is a momentous task of itself. It is the production and adaptation of materials capable of resisting extraordinary conditions, and without the accumulation of excessive weight, which most concerns the designer at the present time. Yet in the movement for increased safety in motoring, which is the real intent of this effort, it is curious to reflect that in that most perilous danger center, the gasolene tank, the use of so soft and ductile a metal as copper still continues, with rare exceptions. That no more serious consequences attend its general use under a wide variety of conditions, is equally to be wondered at considering the arduousness of the duty thrown upon it.

Despite the effect of new methods of staying and suspending the fuel tanks, the fact remains that the number of collisions or smashes which are accompanied by the incidental destruction of the tank, is too great to pass without notice. Generally speaking, this incident is followed by the burning up of the wreck—a thing which might have been avoided were the fuel tank made of stronger metal and provided with an emergency valve to seal its contents automatically at such a time. In the case of tanks mounted in the rear of the car, and therefore open to the effects of the ever imminent rear-end colision, the danger of using thin and soft metal is increased. The enclosed tank, placed under the front seat, usually is protected except when the car is overturned or the forepart of the body is smashed. The rear, underhung tank, however, remains exposed at the risk of carelessly driven following vehicles, flying stones, and high obstructions in the center of the road.

That it is perfectly possible to use galvanized iron, or iron otherwise coated to guard against corrosion and the effects of the gasolene, as indeed is done in one or two instances, makes it appear all the more remarkable that the subject has not been given more serious attention by the makers hitherto. Obviously its cost should not act as a deterrent, nor the question of the added weight of the stronger tank. It is true that flanged couplings would be required in place of soldered-on connections, and that the method of fixture to the chassis would have to be such that no weaving or lost motion could occur in the tank. This ought not to be difficult to accomplish, however, and it is not easy to see why the matter has been permitted to pass without comment, for so long a time.

An Unsettled Controversy.

It is somewhat surprising to note the almost complete cessation of the "battle of the cylinders," in regard to the relative merits of combinations of fours and sixes, which at one time, not so long since, threatened to move the industry to its very depths. Contrary to what might have been expected from the preliminary skirmish, there are no present indications that the close of the year will see complete victory. There is every reason to suppose, in fact, that makers who now are devoting themselves exclusively, or to a large extent, to the production of sextuple engined machines, like those who have stuck to the quadruple type, will continue to build models of a similar nature. Furthermore, it appears that the question as to the relative merits of the two types is fast losing interest for the owners as a class.

It is pretty generally admitted that both parties to the controversy have been forced to make concessions during the interval since the six-cylinder motor came into a position of real comparative merit with the four cylinder type. The question as to which of the types is best suited to the work of propulsion, is now recognized as being not one of power, nor, in general of cost, but of comparative smoothness of operation, particularly when propelling the car at low or moderate speeds and on high gear. Matters of cost of production, maintenance and operation, have been found to equalize more closely than had been anticipated, when comparison is based on general uniformity of design and an equal power output. In consequence, it is reasonable to suppose that in his growing appreciation of actual running ability in the complete car, and his recognition of his own impotence in determining its specifications, the average owner is inclining toward a position in which he will leave all questions of pure design to the manufacturer.

On this supposition, the question is destined to continue to be rather more of commercial and technical interest to men in the trade and designers, than to the motoring public. Consequently it may be supposed that those makers who have "gone into" six cylinder construction after thorough experimentation on an original basis and have succeeded in producing motors which are without serious defect, will continue to produce them until such time as more complete developments in the art of gas engine design shall have revealed really striking points of advantage for one or the other of the two types. Similarly, those who have succeeded in developing four-cylinder motors which are not open to criticism at present, will probably adhere to their present policy. It is those makers who have placed themselves in the equivocal position of building two types of motor of practically equivalent power, but of the two sorts, who will feel the need of making a permanent decision in favor of one or the other, since economy of production demands the elimination from the product of all variety that it may be possible to

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accomplish without reducing its scope.

It is observable that the double-opposed motor has been granted a regularly established status in cars of a certain class—light, economical, relatively small. That ultimately a similar classification embracing motors of medium power of the four-cylinder type, and of high power, of the six-cylinder type may come to be established, for good and sufficient reasons, would be a logical conclusion, more or less upheld by an apparent trend at the present time.

The Endorsement of the Trade.

Whether it be held as a matter of nice discrimination that the manufacturers of automobiles are not entitled to a hand in the control of what is purely the sport of automobile competition, or whether the opposite view be taken in the matter, the action of the National Association of Automobile Manufacturers in upholding the standard of the American Automobile Association in its governmental capacity cannot fail to have a clarifying effect on a situation which was in danger of becoming needlessly complicated. It may be assumed that the A. A. A. might have been able to establish proper relations with other recognized bodies abroad without any action from outside sources which might be construed as needless interference. At the same time, it is almost certain that the foreign associations, which are uniformly under the sway of trade influence, will be deeply impressed with the endorsement presented them, and that its effect will be to hasten a settlement of their present misunderstanding. Incidentally, the action serves to emphasize the untenable attitude of the Automobile Club of America, of New York, and serves as an interesting comment on the futility of its hope to attain the mastery of the automobilists of America.

Prospects of the Motor Stage.

That the motor stage is "making good" in various localities is a matter of no question, though its development has not been attended with the eminent success that at one time was predicted for it. In many localities, it has been found a more or less expensive luxury, though perhaps, not necessarily so. In others, particularly where long hauls are the rule, it has attained a prominence which speaks volumes for the certainty and despatch of its service. This is particularly true of instances of its use in the extreme West, where questions of operating cost, like those of tariffs, are subordinated to considerations of schedule. That it is destined ultimately to become of no small importance in feeder work, both within corporate limits and on the fringes of civilization, is an old conclusion which is fully endorsed by present experience.

The use of motor cars for commercial purposes has not progressed to such a degree that a proper conception of its business side has been developed. The enthusiastic promoter, however good his intentions, often lacks the knowledge and experience required for a fair handling of the equipment. This alone stands in the way of a successful employment of motor stages in many instances where, other things being equal, prospects are good for a profitable outlay of capital.

The rate at which enterprises of this nature are multiplying in the western States is really surprising. It speaks volumes for the faith which the performance of the pleasure car has inspired, and for the extension of business which is promised in the future. But that increased popularity, more especially in the line of passenger-carrying vehicles, can be brought about only by the exercise of proper discretion among the manufacturers and their agents, in placing machines under conditions where careful and rational treatment is assured to them, at least so far as this may be possible.

How to Develop Exports.

It is not a particularly inspiring outlook for the business of automobile exportation to Ceylon which is presented by American Consul E. A. Creevy, of Colombo. It is the old story. Roads are bad, hills steep, fuel costs high, and the possible buyers not yet alive to their needs in this respect. At the same time his message serves a useful purpose first, in showing that a definite opening for motor cars exists, and how the land lies, and second, because it points the way to successful exploitation. The principle of personal representation on the ground is one which has been shown to be desirable, if not absolutely necessary, in several other instances of a similar nature. Long-distance selling methods in which catalogues printed in a foreign language figure most conspicuously, and in which are shown no appreciation of local conditions, are not destined to be crowned with success. Whether the export trade is to be fostered throughout the field, in specially favorable localities only, or not at all—is for the makers to decide. The fact remains that the situation cannot be handled at arm's length, as has been proved in the case of the few concerns who are really advancing in this line.

COMING EVENTS

July 25, Philadelphia, Pa.—Norristown Automobile Club's race meet at Point Breeze track.

July 26-26, San Francisco, Cal.—Automobile Dealers' Association's reliability run to Del Monte.

July 29, Des Moines, Iowa—Iowa Automobile Club's race meet at Fair Grounds track.

Sept. 1, 2, 3, and 4, Chicago, Ill.—Chicago Motor Club's postponed 1,000-mile reliability run.

Sept. 7, Columbus, Ohio.—Columbus Automobile Club's race meet.

September 7, Lowell, Mass.—Lowell Automobile Club's road race at Pawtucketville, Mass.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles outlaw race for foreign cars.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show in Madison Square Garden.

Value of a Legalized Monopoly.

No man can estimate the intrinsic value of the aggregate of patent holdings to the business world. Similarly it is impossible to estimate the amount of money which has been sunk in patents and to no purpose. But despite the great price which is paid for the exclusive right to use an invention or the product of an invention, it is an open question how much actual return is gained on patent investments, in the general sense. The cynical phrase, "a patent is merely a license for litigation," recurs with haunting persistency. A question even suggests itself at times as to whether it pays to recognize the validity of patents except when compelled to do so, or to seek protection in such a way, when its enforcement means, perhaps a greater loss than would be sustained at the hands of open and unfettered competition. The sophistry of the idea, however, is plainly revealed when it is considered what strange chaos would be produced to-day, were the patent laws suddenly nullified, and all their monopolies coincidently rendered void.

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HOWER FAILS AS A BREAKER OF TIES

Glidden Tour Marked by Surprisingly Few Penalizations Despite Strenuous Route and Drastic Rulings—Three Teams Enter on Last Stage Unpenalized—Many Perfect Individual Scores—Of 46 Who Began the Long Journey Only 12 Dropped Out of the Running.

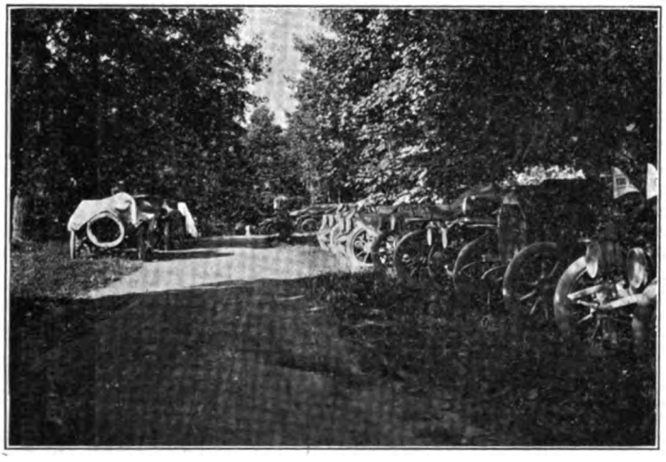
At the start of the last day's run, the three perfect score teams competing for the Glidden Trophy are the Pierce Team, of the Buffalo Club; the Peerless Team, of the Columbus Club; and the Chicago Team, consisting of two Haynes cars and an Oldsmobile.

In the Hower Trophy contest for runabouts the perfect score cars are the two Pierce Arrows, two Stoddard-Daytons, and a Premier.

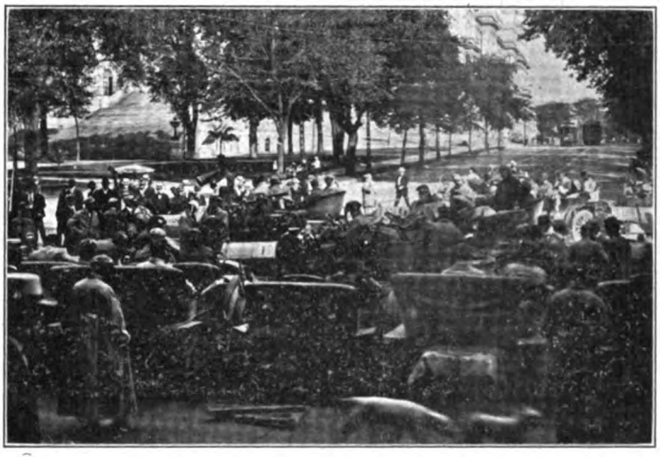
The two Stevens-Duryeas, competing for certificates only, have perfect scores.

In addition to these cars there are 13 cars competing on penalized Glidden Tour teams that individually have perfect scores. The list includes the Rainier, the Oakland, two Studebakers, the Gaeth, the Thomas, two Franklins, the Reo, the Premier, two Marmons, and a Garford.

Of the total of 46 cars actually competing in the tour, 29 have come through to the last day with perfect scores, 12 have dropped out, and 5 continue to the finish with penalizations. The contest will be run until ties are broken.



IN BED AT MILFORD, PA.



RENDEZVOUS AT ALBANY, N. Y.

Except in a comparative sense, Philadelphia is not a Southern city, but being the southernmost point of the trip, the tourists were glad to leave it, on account of the hot weather, and head northward on Wednesday, July 15. The night stop was Milford, Pa., 132 miles away, and the plunge into the rolling upcountry and later into the mountainous district brought delightful relief in pure cool mountain air. None of the Glidden cars incurred any penalties, but two of the Hower contestants met with trouble, one of them being a perfect score car up to that point. This latter was the Reo, No. 101, driven by R. L. Lockwood, which lost 12 points for being late, making its remainder of points 665, as it had previously been penalized 302 points.

Accidents happened to the Premier confetti car and to the Gyroscope runabout, No. 113, which was continuing as a noncontestant. The Premier broke its front axle as the car was near Nazareth, 69 miles from Philadelphia and 6 miles from Easton. No harm was done the occupants. The Gyroscope precipitated a more exciting incident. As it was going about 25 miles an hour, its steering arm broke, and the machine darted off the roadway, down a steep embankment. It crashed into a huge log which lay crosswise of its path. The log was loath to take up movement too rapidly and retaliated by crushing in the whole front of the car. Both the driver and the mechanic had jumped, and they landed some 20 feet away in soft dirt. At this point it was decided that the Gyroscope would not continue the trip with the rest of the tourists. The scenery of the day was a pleasure to all who took the leisure to observe it. Especially around the Delaware Water Gap were splendid views unfolded to the eye, and the combination of mountain and water scenes gave pleasant variety.

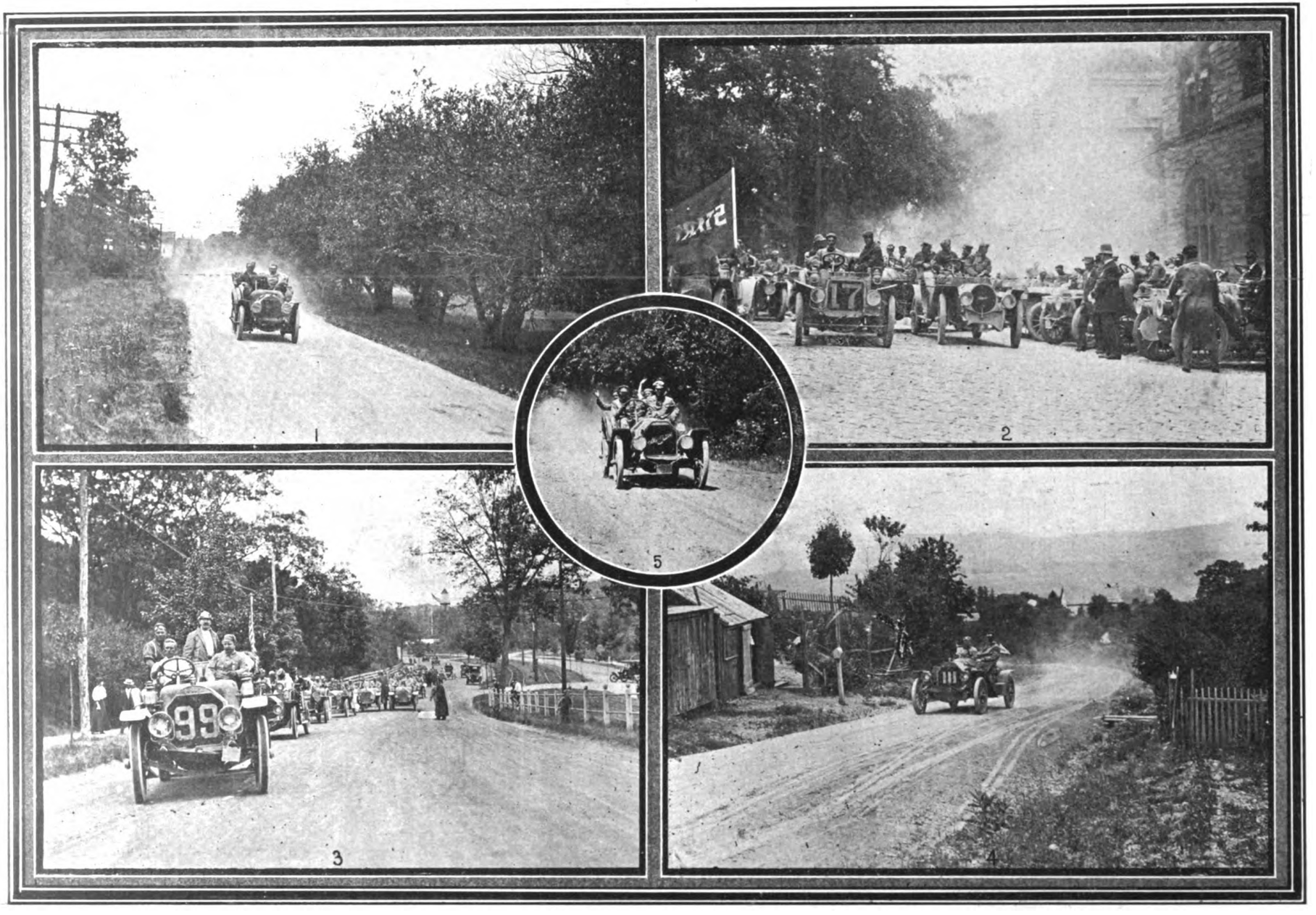
From Milford to Albany, 158½ miles, was on Thursday made the basis of a 19 miles per hour schedule, the time allowed for the big cars being 8 hours and 15 minutes. This was ample, despite the fact that the actual distance was some 6 miles more because of a necessary detour. The smoothness of the roads and a cross wind which blew the dust away, made high speed possible without discomfort. The wind did not confine itself to blowing the dust, however, and removed considerable of the confetti trail, which at times bothered the drivers who were following it. The Catskills made the roads very winding in places, and many of the speedy cars found difficulty in keeping to the curves.

The Glidden Team No. 2, of the Buffalo Club, suffered as a result of steering knuckle trouble on the Premier driven by J. W. Moore. The car withdrew to make a satisfactory repair, the team being penalized 333⅓ points. No serious accidents marred the run, although Mrs. Cuneo had a near-smashup with a freight train, compelling quick use of the brakes, while the Gabried horn car followed wind-tossed confetti up an alley and dished a wheel.

Again the scenery features were strong, the Hudson River being in plain view from many points on the trip, and the Catskills themselves presenting very rugged and beautiful effects. These were lightened in places by flippant signs invented by occupants of the press car, bearing messages like "Suppose we should lose Hower," and a little further on, "What the thunder would

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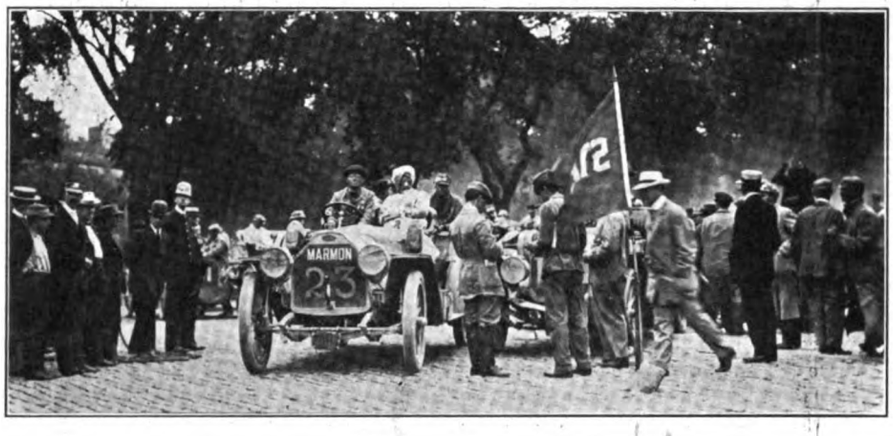
GLIMPSES OF THREE STATES ON ROUTE OF GLIDDEN TOUR.



1. On the Good Roads of Massachusetts. 2. On the Pavements of Albany, N. Y. 3. On One of Boston's Boulevards.
4. Approaching Milford, Pa. 5. Acknowledging Greetings.

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we care," while at a placid lake the sign said, "Franklins take on water here," which caused the air-coolers as much amusement as anybody else.



ONE OF THE MARMONS AT ALBANY

After the first rush of rapid going, it was seen that there was plenty of time, and so a more moderate pace was maintained, giving opportunity to enjoy country. The pacemaking car lead a slow procession into Albany where the luxuries of the Ten Eyck hotel awaited the tourists. The Rapid truck had arrived early with the baggage, and there was a pleasant scramble for bathrooms and clean clothes.

Friday took the tourists 194 miles, the distance from Albany to Boston, and while it broke only one perfect score in the contest, it developed plenty of wayside trouble of one kind and another. The time allowed was 10 hours, which means "going some" in places. The first 90 miles was through the Berkshires to Springfield, Mass., where the Stevens-Duryea Co., the Fisk Tire Co., and the Knox Automobile Co. joined in serving a collation at the gasolene control, from the kitchens of the Hotel Worthy. There was no extra charge for "fruit taken from the table," and the tourists were grateful for the lunch even if they could not stop to take it in deliberate courses.

From Springfield on to Boston it was a dusty race through level country, and the speed regulations of many towns were ignored. After the time consumed in getting through the Berkshires and in making the descent of the famous Jacob's Ladder, it was thought necessary to "open up" in order to keep to the schedule. The usual speed traps in many places were not employed to annoy the tourists, a bit of courtesy which was much appreciated, but no enthusiasm or demonstrations of welcome and good will, such as were common on the other parts of the tour, were shown. In fact, the Massachusetts residents manifested a supreme indifference to the tour and hardly deigned even to look at the cars as they went by.

The smashing of a wheel on the Studebaker, No. 25, took 333⅓ points from the hitherto perfect score of the Rochester Automobile Club's Studebaker team, as the new wheel that was put on had not been inventoried in the original list of parts carried and therefore disqualified the car. In addition to considerable tire trouble, a number of minor repairs were found necessary among the other cars. The Haynes car, No. 19, broke a strut rod on the rear axle, but a new one was built from raw material and put in without the car incurring any penalty. The No. 16 Stevens-Duryea dismounted its leaking radiator, repaired it, put it on again and finished in good time without penalization. Similarly other cars were able to fix up minor difficulties without using spare parts and with no loss in points.



PICTURESQUE VIEW EN ROUTE

H. A. Van Tine, whose Garford, No. 29, broke a wheel on the run to Bedford Springs and was therefore continuing as a non-contestant, had a narrow escape from serious accident. Just after leaving Worcester he came upon a heavily loaded wagon as he was rounding a turn at high speed. He had to take to the ditch, and smashed into the fence. After missing a tree the machine turned around and stopped. A tire was torn off and the passengers were badly frightened, but matters were soon fixed right and the car resumed its journey. "Rough Rider" Hurlburt, in another Garford, knocked off his usual number of side-rails from the little bridges on the road and rocked the scenery generally, but met with no mishaps to his car beyond a few dents in the side.

The evils of throwing things at the tourists had a painful demonstration when James McLean, an observer riding in a Franklin, was struck in the eye by an apple which had been tossed to him by a young girl. The apple hit his goggles, the glass of which broke and cut him badly. His wounds were taken care of as well as possible by the other occupants of the car until Springfield was reached, when he was hurried to a doctor's office and two stitches were put in. He came unpleasantly near having his right eye destroyed, but by good fortune the glass had not penetrated the pupil. A mechanic in one of the Peerless cars was struck the day before by a pine cone thrown by a boy. He leaped from the car, caught the offender and gave him a not too gentle booting. The circumstances in McLean's case, however, were in many respects so different as to make this line of action hardly feasible.



TROUBLE ENCOUNTERED ON A ROUGH ROAD

No stop was made at Worcester and at Auburndale the contestants were met by

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25 cars filled with members of the Bay State Automobile Association. For the entrance into Boston a procession was formed, in which the Marmon team, representing the Bay State Club, was given the place of honor. It was an imposing array that whirled into Boston and rounded up at the Hotel Somerset, at 4 o'clock in the afternoon. The spectacle of the dusty cars accompanied by the shining clean machines of the local automobilists and Milton Lusk doing the calliope act on his Gabriel pipe organ quite roused Boston's interest, as the city had never before seen a Glidden tour in the act of Gliddening. Bouquets were presented to the ladies, and after the travelers had had a chance to wash up, there were speeches of welcome and other pleasant ceremonies. Mayor Hibbard figuratively presented them with the keys of the city, and J. F. Hovstadt, of the local club, outlined the plans that had been for their entertainment.

Saturday and Sunday were spent in the luxury of late sleep in the morning, and clambakes and other festivities in the afternoon. What with special chartered steamers and other thoughtful arrangements, the Western visitors enjoyed the pleasures of the beach resorts and the harbor, while others toured the city, visiting points of historic interest. The change in personal appearance, when for a brief time at least the tourists could assume "purple and fine linen," was in many respects remarkable.

Monday morning's start from Boston had a distinct atmosphere of its own—in the psychological sense rather than in reference to the belching oil smoke. There was a feeling that the last leg of the tour was being begun and that if decisive events were to happen they would happen soon. Poland Springs, Me., 164 miles, was the first objective point, but the roads were so good and the weather so pleasant that not a score was marred or a penalty imposed. There was plenty of tire trouble, but all repairs and replacements were made with little delay.

The nearest thing to an accident that occurred was the falling of a bicyclist in front of a Pierce car, which swerved in time to save him, and an adventure which No. 14 Franklin had in avoiding a head-on collision with a reckless youngster driving a powerful and self-willed runabout. The driver of the Franklin, M. S. Bates, yanked his car to one side, where it almost went down an embankment into a pond.

From Poland Spring to Rangeley Lake on Tuesday, 141 miles, was more to Chairman Hower's liking, in that it spoiled another perfect score and lessened the number of teams in the tie. Not that Hower had any particular preference as to the teams he wanted to suffer, but he disliked the prospect of having cars going around the course all summer trying to run off their ties for the trophies. The Marmon team was the unfortunate one, No. 22, driven by C. L. Clarke, having trouble with the brake band. The car was penalized 10 points for tardiness. The Marmon interests protested strongly, on the ground that the car had been following the pacemaker, who was 15 minutes behind his schedule, but would not let the Marmon pass. It was claimed that had the pacemaker been up to schedule, the Marmon would have had ample time to fix its difficulties and get in on time, as it was only 10 minutes late. No decision was made on the protest, the 3⅓ points against the Marmon team being left standing. The Oakland, No. 28, broke its left front spring, and was 42 minutes late, thus getting a corresponding number of points penalty. This further reduced the Rainier-Oakland mixed team of the Chicago club to 983⅓ points.

By smashing a rear wheel in a deep hole on Wednesday, the Marmon car, No. 22, the justice of whose penalization the day before had been disputed, solved the whole difficulty, as it was obliged to withdraw, leaving the Bay State team with a score of 666⅔. The day's run from Rangeley to Bethlehem, N. H., in the White Mountains, was only 130 miles, but it was rough country and rain had made the roads slippery. Chairman Hower and Charles Glidden were pitched bodily out of their car at one point, when the machine was run to one side of the road to let a horse pass. The soft dirt of the road gave way and the car rolled over into the ditch. Hower was thrown beyond the ditch, down an embankment, where he made a rapid descent of 18 feet into a huckleberry bush. In the excitement of righting the car he was temporarily forgotten, but was later helped up to the road again somewhat dazed. The Oakland, No. 28, of the Chicago team, was again penalized, to the extent of 9 points, bringing 3 points against the team. A number of other cars met with difficulties, but in the case of the contestants they were able to make their repairs and get in on time, while the non-contestants were not subject to penalty for their delays.



PREMIER "CENTURY A DAY" PRESS CAR



F. B. HOWER (AT WHEEL) AND C. J. GLIDDEN

Rather than to spoil perfect scores, several of the cars are running without making replacements of lost or broken parts such as would ordinarily be made, as in the case of missing starting cranks or oiler connections. Studebaker, No. 25, took a try at breaking up a bridge and was partially successful. The bridge lost a good part of its side railing, while the car only lost a tire.

In the evening at Bethlehem a meeting of the contestants was held and it was arranged that the cars should parade into Saratoga in the numerical order in which they checked out from Buffalo at the start of the tour. This arrangement was designed to prevent racing for first arrival at Saratoga. It was also decided to let the contestants check out at 6 o'clock on the following morning instead of 7 o'clock.

Plans for a 1908 Glidden and Hower tour to Denver, with tenting parties en route, and a 1910 tour in England, Scotland and Wales, doing the 2,000 miles from Land's End to John O'Groat's, are already being discussed by the participants in this year's tour.

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CHRISTIE GETS OLDFIELD'S SCALP

Sensational Struggle for First Place in Star Event at St. Paul—De Palma Wins Two of the Races.

With ideal weather conditions, the best field of entries ever gotten together in the West, a great throng of 20,000 people massed in the huge stands, no bothersome delays, fast times and not a mishap of the slightest character, together made the race meet of the St. Paul Automobile Club at the State fair grounds on Wednesday of last week, 15th inst., one of the greatest sporting events that ever has been held in the region of the Twin Cities.



CROWD OF 20,000 AT ST. PAUL MEET

The meet was held in honor of the visiting Shriners who are on a pilgrimage to St. Paul and camel drivers and the horsemen of the plains gathered in large numbers to watch the modern leviathians vie with each other in tests of speed. The scene presented by the assembled tribesmen and dwellers of the Twin Cities at the trackside was fascinating. On every hand gleamed the red, and yellow and the white of the fez of the Moslem faith, plotted in solid rows in the stands, scattered over the home course, sprinkled everywhere, while the tribal ribbons and silken emblems of the faith unfolded in the breeze in confused masses. The speeding machines flashed in lightning kaleidoscopic vision the red, the green and the yellow of the prophet. From the stands, packed in unyielding lines of congested humanity, the overflow flattened down into the paddock, spreading out on either side until the green of the grass was hidden. Truly it was a great and picturesque throng.

Naturally the most interest centered in the event known as the quadrangular sweepstakes for professionals at five miles. Kilpatrick's big racing Hotchkiss did not arrive in time for the start, but it did not make much difference with the crowd as they had conceded the event to either Christie or Oldfield. Ralph De Palma, who by the way, in this event drove Oldfield's discarded Green Dragon, was the third starter. Oldfield and De Palma went in the first heat, but the former was never headed. The Green Dragon exhibited signs of old age and was satisfied to quit after eating the dust for several miles. The final heat possessed more than ordinary interest as it brought together Christie and Oldfield. It may be remembered that last fall Oldfield arranged a $500 race at Pittsburg, not expecting any one with a car faster than his to appear on the scene. Christie unexpectedly appeared, much to Oldfield's chagrin, but he never had a chance for the $500, as he smashed up his car and landed himself in the hospital while making an exhibition run before the races. There was no hippodroming in this later race between Christie and Oldfield, as the former was after the champion's scalp, and how he got it is now a matter of history.

Oldfield drew the pole for a rolling start, but Christie jumped into the lead at the quarter and kept 20 feet of daylight between him and his rival until the three-quarters pole, when Oldfield slightly advanced his position and brought his front wheels even with the rear wheels of his rival. The succeeding miles were exciting. Oldfield would gain a little on the stretches, but Christie gained on the turns and it was nip and tuck until the last stretch, when Oldfield came tearing down the track, gaining on Christie with every second. That was when the crowd rose en masse and cheered, for each driver had his rooters. It was an exciting moment when Oldfield gradually closed the gap, but the tape was too far away and Christie flashed over a winner by ten feet. The time for the heat was five minutes flat.

The 25 miles endurance race proved more interesting than was expected, and but for an unfortunate occurrence it would have been the best event of the day. Soules in a Stearns, Schoenick in a Renault, De Palma in the Allen-Kingston, and Patterson in a Packard, were the starters. Soules and De Palma soon lapped the others. De Palma took the lead at the start and held it until the sixth mile, when Soules got a notion that he would like to kick up some dust. The position did not last for long, however, as De Palma again went up front and in the tenth mile Soules lost his goggles. The dust raised by De Palma's car was too much for Soules and he had to stop for his eye protectors. This delay was sufficient for De Palma to gain a lap and although Soules re-entered and kept hugging him to the finish, he never could regain the lost lap. Patterson and the driver of the foreign car both dropped out.

In the mile trials Christie, Oldfield and De Palma tried to reduce Christie's record for the track of 52 seconds. Christie failed by 2⅘ seconds, while Oldfield's time for the circuit was 56⅘ seconds. De Palma was clocked in 58 flat.

For the third successive time Oliver Crosby's Packard car won the Twin City championship race for stock chassis, Smith's Packard of Minneapolis, being the other contender. Patterson handled the St. Paul car and was never headed from the starting gun, winning ultimately by a quarter of a mile in five. The prize was the Twin City cup, with a gold watch fob to the driver.

De Palma had things his own way in the five miles event for 40 horsepower stock chassis, his Allen-Kingston winning over Patterson in 5:14⅘. Martin, in a Thomas, was third. The five miles event for cars costing $1,250 and less went to Charles Nyquist, Buick, in 6:05⅕.

Big fields and keen competition made the motorcycle events of more than ordinary interest, more than a score of riders starting in each event. The five miles handicap for machines not exceeding 30½ cubic inches piston displacement went to O. Gudenschwager, Indian, in 7:18⅘. Charles Van Sickle, who started from scratch, put up a beautiful race, passing man after man. He was beaten at the finish by only a length.

The ten miles open for motorcycles was won by F. S. Haas. The contest after the fifth mile resulted in a battle between Haas and Van Sickle, the former finally winning. The time was 11:22⅖. Van Sickle tried to break the mile track record but the best he could do was a lap in 1:01. The summaries:

Five miles for motorcycles—Won by O. Gudenschwager, Indian; second, Charles Van Sickle, Indian. Time, 7:18⅘.

Ten miles for motorcycles—Won by F. S. Haas, Indian; second, Charles Van Sickle, Indian; third, O. Godenschwager, Indian. Time, 11:22⅖.

Five miles for stripped stock cars costing $1,250 or less—Won by Charles Nyquist, Buick; second, Wheeler, Ford; third, Reynolds, Buick. Time, 6:05⅕.

Five miles for stock chassis, 60 horsepower and under—Won by Ralph De Palma, Allen-Kingston; second, Charles Soules, Stearns; third, Schoenick, Renault. Time, 4:58.

Five miles for stock chassis, 40 horsepower and under—Won by Ralph De Palma,

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Allen-Kingston; second, A. H. Patterson, Packard; third, Martin, Thomas. Time, 5:14⅗.

One mile time trials—Won by Walter Christie, time, 0:54⅘; second, Barney Oldfield, Stearns, time, 0:56⅘; third, Ralph De Palma, Green Dragon, time 0:58.

Five miles Twin City championship for stock chassis—Won by A. H. Patterson, Packard; second, Bagley, Packard. Time, 5:23⅗.

Five miles quadrangular sweepstakes—First heat won by Barney Oldfield, Stearns; second, Ralph De Palma, Green Dragon. Time, 5:05⅘. Second and final heat won by Walter Christie, Christie; second Oldfield. Time, 5:00.

Twenty-five miles endurance derby for stock chassis—Won by Ralph De Palma, Allen-Kingston; second, Soules, Stearns. Time, 26:11⅗.

One mile motorcycle exhibition—By Charles Van Sickle, Indian. Time, 1:01.

Brush Plans Demonstration Tour.

Radiating from the Detroit factory in different directions, four runabouts and a delivery car of the Brush Runabout Co. will shortly set out on tours which in total will cover 14 States, 400 towns and cities, and some 4,000 miles, and which will have a triple purpose. Each car will carry an observer who will keep a record of the amount of oil and fuel consumed, as well as a detailed account of all repairs and replacements. A silver cup and a cash prize will be given the driver making the best showing in cost per mile.

The objects of the tour will be to show the cars in the principal towns and agency points en route, to get a record of performance, and to distribute good roads literature. Each car has a different route and objective point, the first going from Detroit to Boston via New York; the second to Washington via Pittsburg and Philadelphia; the third to Kansas City via Cincinnati and St. Louis; the fourth to Minneapolis via Indianapolis and Chicago; and the delivery car from Detroit to Chicago and return.

The observers will be newspaper men, among whom will be a cartoonist, so that there will be no lack of record as to what happens. The State highway commissioner of Michigan is going to help out with the good roads literature which will be distributed, and the agents and populace along the highway will be given every opportunity to examine the new models of the cars.

"Accelerative Test" the Latest Competition.

Among the forthcoming competitions on the calendar of the Royal Automobile Club of Great Britain, is an "acceleration test," which is to come off some time during August. It is intended to demonstrate the accelerative powers of the cars—as the name implies—with particular regard to their fitness for service under heavy traffic conditions, where quick starts and stops are an absolute necessity.

N. A. A. M. STANDS WITH A. A. A.

Makers Vote Exclusive Recognition of the Association as Governing in Racing—Foreign Bodies to be Notified.

The car makers belonging to the National Association of Automobile Manufacturers have taken a hand in making it clear that the American AutomobileAssociation is the governing body in racing matters in the United States. At a meeting of the executive committee on Wednesday of last week it was decided to advise the recognized clubs of Europe that the manufacturers regard and will recognize only the American Automobile Association as the governing body and that they will support only such events as are organized or sanctioned by the A. A. A.

The attention of the foreign clubs and manufacturers will also be directed to the fact that participation in events on this side that are not sanctioned by the A. A. A. will disbar the participants from the sanctioned events such as the Vanderbilt cup race and minor races and from all events to be conducted on the Long Island Motor Parkway.

Further resolutions were adopted approving the action of the central conference committee of the A. A. A. at Buffalo the day before in deciding that it would not be fair or just to change the rules for the Vanderbilt cup contest this year.

The representative character of the meeting was indicated by the presence of Thomas Henderson, of the Winton Motor Carriage Co.; S. T. Davis, Jr., of the Locomobile Co. of America; G. W. Bennett, of the White Co.; Charles Clifton, of the George N. Pierce Co.; Wm. E. Metzger, Northern Motor Car Co.; S. D. Waldon, of the Packard Motor Car Co.; W. R. Innis, of the Studebaker Bros. Mfg. Co.; C. C. Hildebrand, of the Stevens-Duryea Co.; L. H. Kittridge, of the Peerless Motor Car Co.; W. M. Lewis, of the Mitchell Motor Car Co.; R. D. Chapin, of theChalmers-Detroit Motor Co., and S. A. Miles, general manager of the association.

A proposition for a New York to San Francisco automobile race for general trade participation was considered at the same meeting, but it was decided that such a contest is at the present time unnecessary. The sanction for it has not yet been granted, and will be withheld lacking the approval of the manufacturers.

Chicago Wants the Thompson Cup Race.

Having renewed its allegiance to the American Automobile Association, the Chicago Automobile Club has evinced a desire to secure the management of the proposed stock car road race for the Jefferson De Mont Thompson cup. Sydney S. Gorham, secretary of the club, this week telegraphed Chairman Thompson of the American Automobile Association racing board, and donor of the trophy, expressing the club's wish to secure the race for Chicago and its vicinity. A course embracing a 22-mile circuit, without grade crossings, and running through only two towns, that is to say, Lowell and Crown Point, has been picked out with this event in mind, and is said to be admirably suited to the test. President Hotchkiss, of the A. A. A., was consulted with regard to the proposal during a recent visit to Chicago, it is explained, and his attitude is supposed to be favorable toward it. A petition to the governor of Indiana seeking his permission for the use of State troops to guard the course, already is being prepared for circulation in Lowell.

Point Breeze Meet May Cause Trouble.

Trouble is brewing in Philadelphia over a race meet that is scheduled for the Point Breeze track, Saturday, 25th inst. The Quaker City Motor Club has been planning to hold a race meet in Philadelphia about August 15th, thinking it not advisable to promote one at an earlier date. They were, therefore surprised to learn that a meet had been sanctioned by the American Automobile Association. Investigation developed that the sanction had been granted to the Norristown (Pa.) Automobile Club. The Quaker motorists resented very much the invasion of its territory by the Norristown club, and protested to the American Automobile Association with the result that the A. A. A. recalled the sanction granted to the Norristown club.

Despite this fact, the promoters of the meet decided to run it just the same, but altered their original plan of having a number of events. They now propose to run a 100-mile match race. J. W. Parker, Jr., a Philadelphian, is said to have agreed to meet any driver in such a race. The promoters tried to secure Wallace H. Owen, and failing to get him, made overtures to Louis Strang.

Graves Buys the Grand Prix Winner.

Extra spice will be added to the promised race for the Vanderbilt cup by the presence of the Mercedes, with which Leutenschlager won the Grand Prix race in France on the 7th inst. It is announced that his car has been bought by Robert Graves, who went abroad principally to see the great race, and who had intended to enter for the Vanderbilt cup race this year the Mercedes car with which he tried for the American trophy several years ago. Mr. Graves, it is said, will not be the only one to enter a foreign car in the coming race, as several other Americans are reported to contemplate the purchase of foreign cars and to compete with them on the Long Island course.

"The A B C of Electricity." Price, 50c. The Motor World Publishing Co., 154 Nassau Street, New York City.

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MONOPOLISTIC PHASE OF PATENTS

What They are and the Rights They Confer—How They Benefit Both the Inventor and the Public.

It is a remarkable fact that one of the most advantageous as well as one of the most abused of American institutions, should be a direct supporter of the monopoly, and as such, should receive the cordial endorsement of the public at large, as well as those who seek its specific protection. Patent law regarded and upheld as a monopoly probably is a novel idea to many who have not studied its logical effect very closely. As such, however, it has a legitimate basis, and is the natural outcome of the primitive method of protecting an original process or other invention by the crude device of secrecy. An unusually clear presentation of the structure of patent law, showing its origin as well as its rightful monopolistic purpose, is set forth in a paper read before the New England Society of Orange, N. J., recently, by Edwin J. Prindle, as published by American Industries. Its analytical view of the patent situation should be of considerable assistance in the establishment of a proper appreciation of questions pertaining to its use and abuse.

That the patent is a true monopoly is brought out by the following quotation from a recent decision, which the author introduces:

"Within his domain, the patentee is czar. The people must take the invention on the terms he dictates or let it alone for 17 years. This is a necessity from the nature of the grant. Cries of restraint of trade and impairment of the freedom of sales are unavailing, because for the promotion of the useful arts, the constitution and statutes authorized this very monopoly."

"The operation of the patent laws, like that of the laws of nature, is so unobtrusive that comparatively few realize their importance," continues Mr. Prindle. "They have been one of the most important factors in the development of our country from non-manufacturing colonies to the greatest of manufacturing countries. . . . .

"Before patents were granted for inventions, the inventor had but one way to secure a return from his invention. That was to keep it secret.

"Secret inventions were the most valuable possessions of many families and guilds. But in proportion to their value, they tempted the cupidity of competitors. The secret of making Venetian glass was greatly prized and was most jealously guarded. A Venetian named Paoli, who possessed the secret, left Venice and wandered northward practising his art. He was stabbed in Normandy with a dagger marked 'Traitor'—a measure taken to preserve the secret.

"In 1710 the Elector of Saxony learned that a man named Bottger had discovered the secret of making porcelain. He accordingly confined him in the castle of Albrechtsburg until the discovery had been perfected. The workmen were sworn to secrecy, and the draw-bridge was kept up except to admit those specially authorized. Thus was the manufacture of the famous Dresden ware begun. The secret was soon carried to Vienna, where a royal factory was established, and to France, where it was the foundation of the manufacture of the famous Sevres pottery. . . . .

"The inventor could only keep his invention secret where the invention was either a process of making something, or a machine whose product he could sell. If his invention was a new article of manufacture, or a machine, which was itself the subject of sale, the moment he sold one his competitor could see its construction and copy it, and that without the handicap of the usually costly experiments of the inventor in making his invention. There was, therefore, little encouragement to make any invention which could not be kept secret. This worked to the disadvantage of the public in several ways. First, the precautions to preserve secrecy necessitated a limited output by a single establishment, and resulted in a restricted supply at a relatively high price. Second, the secret if successfully kept, might and sometimes did die with the inventor, and so was completely lost to the public, or perhaps but an imperfect knowledge of it became public. Some of these lost arts have never been rediscovered. Third, the frequent theft of inventive secrets discouraged the production of inventions.

"The perfection of an invention often involves the expenditure of a large sum of money and a vast deal of time. As a not unusual example, I may state that a comparatively simple, special typewriter of not very large commercial possibilities cost over $200,000 in experiments and special machinery before it was ready for the market. If a competitor had been at liberty to copy the machine as soon as it was put on the market, the competitor would have been a large part of this sum better off than the inventor at the start. These difficulties greatly discouraged invention, and the public was deprived of many inventions it might otherwise have had.

"Thus the wisdom of granting the inventor an absolute monopoly of his invention for a limited term will be apparent. The inventor is encouraged to invent by the assurance that his exclusive possession of the invention will be preserved just as fully and much more certainly than if he kept it secret. The public is made certain of the possession of the invention at the end of the term by the requirement that in order to have a valid patent the inventor must fully disclose his invention at the time it is granted. . . . .

This, then is the nature of a patent: It is a contract between the public and the inventor, by which, in consideration of such a full disclosure of the invention that any person skilled in the art to which the invention relates can make and use it, the public grants to the inventor the right to exclude all others from making, using and selling the invention for a limited term (in this country 17 years).

"There are four classes of inventions which can be patented. These are arts, machines, articles of manufacture and compositions of matter. An art is an operation or series of operations performed by rule to produce a physical result. Thus the art of casting car wheels was patented, which consists of pouring metal into the mould in a tangential direction so that the metal acquires a whirling motion and the heavy solid metal is thrown out to the rim of the wheel and the light dross displaced toward the center. This gave wheels having tires formed of solid, durable metal.

"The class of machines needs no explanation. An article of manufacture is anything made by the hand of man that is not a machine or a composition of matter, such as a lead pencil. A composition of matter is any mechanical or chemical mixture of two or more substances, such as soap or a tool steel.

"The monopoly granted by a patent is a peculiar one. It is negative in character. It gives the right to exclude all others from making, using or selling of the invention; but it does not grant the positive right to the inventor himself to make, use and sell his invention, if he does not already possess that right. That is, if he cannot practise his invention without using that which has already been patented to another, then, while his patent gives him the right to exclude all others from his invention, he cannot himself make, use or sell any embodiment of his invention until the patent which he would infringe by so doing is dead. For instance, Bell invented the first speaking telephone, and Edison, Blake, Berliner and others invented telephones which were much more efficient than Bell's, and yet, although each of these later inventors received a patent for his improvement, he could not make, use, or sell his telephone without Bell's consent, because all of the later forms of telephone employed the principle that had been patented to Bell, although in an improved manner. A man cannot use another's invention merely by improving it.

"It is clear from what has been said that a patent must contain a description of the invention so full and clear that any one skilled in the art to which it pertains can practise the invention. In addition to the written description there are drawings, when the invention is capable of such illustration.

"Every invention is, however, an evolution (consciously or unconsciously) of some prototype, and therefore it is never true that the whole device which is represented

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in the drawings is the conception of the patentee.

"How, then, is the public to know the limits of the patentee's monopoly, so that it may know what the public is free to make, use and sell, and what it must let alone? At first there was no way by which it could be told from the patent itself, and the monopoly included the entire machine, minus all the defendant in suit could prove to be old. Then the expedient was adopted of requiring the patentee to specify the part or combination of elements to which the improvement related, this being done in a clause or clauses at the end of the description, called 'claims.' These claims constitute the measure of the monopoly. For instance, the man who first invented the safety bicycle might have made such a claim as this:

"'I claim a velocipede consisting of front and rear wheels, a forked head having said front wheel pivoted in its fork, and having a steering handle at its upper end, a trussed frame pivoted on said head and having a rear fork in which said rear wheel is pivoted, a saddle on said frame, a crank shaft journaled in a bearing on said frame, a sprocket gear on said crank shaft and one on said rear wheel, and a sprocket chain connecting said gears for driving said rear wheel by the motion of the cranks.'

"From this the public would know the patentee did not claim that his invention included the high bicycle consisting of a large front wheel as tall as a man and having a small rear wheel, a perpendicular forked steering head, and a backbone pivoted to the head and having the small wheel mounted in a fork on the lower end of the backbone, the saddle being on the backbone up over the front wheel.

"They could be certain the latter form of bicycle was not within the monopoly granted, because, for instance, the claim includes as elements, the crank shaft, the sprocket gears, and the sprocket chain, by which the rear wheel is driven from the crank shaft. None of these elements is found in the old high wheel bicycle, nor are there any parts which perform the same function."

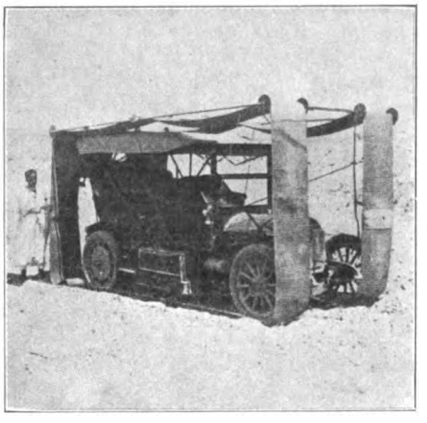
Attaching Speedometer Driving Gears.

In attaching the driving gear of a speedometer to the wheel, a simple method of centering it so that it is true in its relationship to the shaft gear, is to hold a piece of chalk between the fingers, and with the hand resting on and steadied by some permanent fixture, such as the steering arm, turn the wheel so that the chalk will mark the spokes of the wheel in a practically perfect circle. With this chalk outline as a guide it is easy to properly adjust the driving gear. Unless the gear runs true, it will be the cause of an objectionable noise and this annoyance will be avoided if care is taken when the attachment is put on the wheel. Naturally the life and usefulness of the speedometer depends to a great extent on the proper adjustment of the drive.

CARRYING ITS OWN ROAD ALONG

Odd Equipment of Car for Desert Travel—How a French Tourist Drove from Tunis to Algeria.

Long-distance tourists who depart from the better traveled paths of civilization with their automobiles frequently encounter serious difficulties in adapting themselves to the conditions of the trails which correspond to highways elsewhere. Bridge-building, swamp paving and general reconstruction work are merely incidents to such exploits. But it is seldom the motorist is obliged to carry his entire road along with him. This, however, was found to be necessary in the literal sense in connection with a journey in Southern Tunis and Algeria, which was taken not long since by a French motorist, M. G. Liegeard.



CAR EQUIPPED FOR THE DESERT

His 28 horsepower car with its equipment complete, weighed about two tons, which, with the ordinary tire equipment, would have been sufficient to sink the machine hopelessly in the sand of the desert, unless some special provision were made against it. After mature deliberation a scheme was settled upon which followed closely the idea of the designer of the curious "Caterpillar" tractor at present in use by the British War Office. That is to say, an endless traveling roadway was provided, which the machine automatically picked up and set down again, thus providing a uniform surface for the wheels to run upon.

The principle of the thing is shown by the accompanying picture, which is sufficiently suggestive in itself. Upon each side of the car a framework was rigged carrying rollers, over which were stretched endless bands of cocoanut fibre, some 19 inches wide, which passed along the ground under the wheels, and back overhead to the front again. The wide tread surface thus obtained proved sufficient to prevent the wheels from sinking into the sand to an excessive degree, and also protected the tires from the effect of thorns. In proof of this it is only necessary to indicate that although the desert section of the journey was more than 600 kilometers long, or about 375 miles, no tire troubles were encountered.

How to Treat Imitation Leather Tops.

"It is surprising to see wrinkles in some of the imitation leather tops, considering how easily this difficulty can be remedied," says the Carriage Monthly. "The fault is not at all with the imitation leather, but with the trimmer himself. In the first place it is misleading to suppose that an imitation leather top should be treated in the same way as it is customary to treat a leather top, and especially the drawing of the material over the naked bows, allowing a certain fulness for the curve.

"A very good suggestion is to first cut the imitation leather in size to suit the center top piece and side quarters respectively. Next take the side quarters and paste the bottom edge, which, however, should be cut with a curve, about ½ inch, and if the top is long, ⅝ inch curve should be given. When tacking out to dry, see that the bottom edge is tacked out straight, which may be done with the aid of a straightedge, and also by giving it a slight draw lengthwise.

"When this is done, proceed to apply the webbing to the top and mark the places for the seams with small tacks, which are left projecting. Then take the quarters, if dry, and draw them over the bows in the usual manner, being careful to mark each seam. Then snap the chalk line between the various marks, which will afford sufficient curve. Take to the bench and cut to chalk line, allowing half inch for the seam.

"Proceed in a similar manner with the roof piece, after which the top is ready for seaming up, which is usually done on the sewing machine. The top thus prepared, proceed to stuff by applying one light layer of hair, which is sufficient for any top.

"Some trimmers do not use any hair, and make a smooth top. Cover the hair with light-weight muslin, and the top will be ready for the final drawing, which is similar to the drawing of any other top, differing only in respect to the care taken to obtain a smooth job. As a precaution, the seams should be dampened, lest there should be some fullness, as moistening leather shrinks any wrinkles that may be there. By the above explained method the wrinkles will be successfully avoided."

Dismounting the Exhaust Manifold.

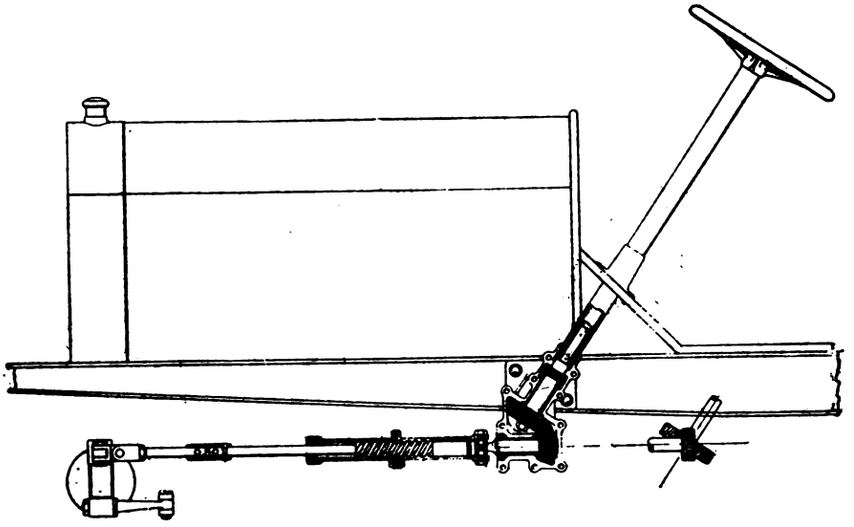
Whenever it is necessary to dismount the exhaust manifold and the piping connecting it with the muffler, it is well to smear the threads of the studs and bolts with a liberal coating of graphite paste, formed of flake graphite and "hard oil," or some other grease. This will prevent rust and insure the free release of the parts when next it is desired to dismount them. Without this precaution, there is danger that the threads will rust in place, making it next to impossible to release them without stripping.

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REDUCES WEAR OF STEERING GEAR

Increased Contact Surface in New Adaptation of Screw and Nut—Self-Renewing Feature of the Device.

However satisfactory the ordinary types of steering gear may have proved themselves in practice, the fact remains that they have sundry defects which might be remedied by slight modifications in design. Thus the average so-called irreversible type of gear because of the limited amount of contact surface in the worm and segment, of which it is most commonly composed, is subject to an inordinate amount of wear. Even



though provision may be made for compensating for this by adjusting the mesh of the two members, this is a disadvantage, which is further increased by the fact that a great amount of dependence must be placed on the very small amount of metal contained in the teeth which are in mesh. A possible modification which is of considerable advantage in this respect, is embodied in the screw and nut type of gear, of which several types are already in use. A recent development in this line, however, goes a step further than the ordinary device of this description by providing for a very great length of screw, and so, a great amount of contact surface.

The arrangement, which is shown by the accompanying illustration is that of the Birch steering gear, a British invention, which is characterized by a telescopic rod taking the place of the ordinary plain connecting rod, while the transmission from the steering column to the gear proper is through bevel gears. The bevel gears are connected to the telescopic portion of the gear through a universal joint, allowing for weaving in the frame, and the screw is enclosed in a dust and dirt proof casing.

By employing a divided sleeve, or nut, provision for adjustment to compensate for wear is made. The two halves of the nut may be brought together by means of suitable nuts and studs, so that the amount of grip of the nut upon the worm may be altered at will. Each of the sections is flanged, and by shifting the flanges over one another the two halves may be rotated slightly to bring about the desired effect. An option in the construction of the transmission from the column to the gear proper is the use of skew gears, as shown in detail at the side of the illustration.

A further point which is noteworthy in this connection is that instead of the usual segments, complete gears are used in the transmission. The object of this is to provide ready means of renewal for wear. The gears are mounted on squared shafts. By releasing the fastenings and shifting them about, a quarter turn at a time, new surfaces may be presented, thus prolonging the life of the gear to a considerable extent. This feature, together with the great amount of wearing surface in the worm, is held to make the gear well-nigh indestructible.

Replacing Tube in Clincher Tire.

When replacing the tube in a clincher tire care should be taken to clear the inside of the shoe of all dirt and dust, as the chafing incident to the presence of any grit which may remain is very deleterious to the inner tube. In doing this it is not sufficient merely to scoop out the dirt with the finger ends, after having tapped the cover lightly around the outside. The inside should be mopped out with a dry rag, after which any remaining particles may be gotten out by slightly moistening the rag and sopping them up. Subsequently a good dusting with powdered chalk should be given the cover.

A simple test for determining whether the muffler is clogged in such a way that the exhaust is escaping through leakage at improper points, is to place the toe of the boot over the discharge pipe, momentarily, while the engine is running slowly under throttle control. If the only exit for the waste gases is through the proper channel, the effect will be to slow the motor.

ACTUATION OF SLIDING GEARSETS

Relative Merits and Demerits of Selective and Progressive Methods—Source of Difficulty and the Remedy.

One of the great advantages of the selective method of operating sliding gearsets is that the shifting lever may be thrown clear back in either of its slots with the absolute certainty that the gears will be drawn into their proper position—providing only that the mechanism is in good order. In this respect it represents a considerable advance over the progressive method of actuation, in which a certain amount of skill is required in selecting the notches, when making a quick change of gear, unless some special automatic contrivance is provided to release the catch when passing from one gear to another. By that very token, however, the selective type of change gear is robbed of one of the advantages possessed by the other type. For the positive lock afforded the progressive type of lever is replaced in the selective type by a series of automatic fingers or latches, which are intended to retain the pull-out, or gear striking rods, in the position selected by the lever. In some types of transmission, this provision is further supplemented by the use of a special form of interlocker which secures permanently the rods which are not for the moment engaged by the lever.

A fault which exists in this type of transmission, no matter how well made, once it has been permitted to get out of order, is that the gears develop a tendency to "jump" out of mesh when the car takes an obstacle in the road. This difficulty is caused through some fault in the latches which nominally hold the gear striking rods, except when being forcibly actuated by the lever. Sometimes the springs become weakened through continual use, but more often it happens that the notches in the rods become fouled with dirt and grease, or that the cases in which the latches and springs are enclosed become fouled in the same way, so that the latches fail to engage. A rare, though possible source of this difficulty arises also through the connecting mechanism between the lever and rod becoming disarranged, so that the rod is drawn into its proper position when the lever is thrown clear back in its slot.

While the difficulty arising from the tendency of the gears to jump out of mesh in this way is not necessarily a serious one, yet there are times when it is productive of injury to the gears as well as inconvenience to the driver, so that it is important that it should be prevented. In order to do this, it is only required that the latches be kept in order—a thing which may be done readily enough, if they are subjected to sufficiently frequent inspection and cleaning, which is well bestowed, by the way, upon any part of the mechanism.

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SPOKANE HOLDS FIRST CLIMBFEST

Contest Preceded by a Big and Beautiful Parade—Spirited Events on the Monroe Street Hill.

Preceded by a parade of 60 decorated cars led by a truck containing a brass band of 20 pieces, Spokane's first hill climbing contest, held in that city on Tuesday of last week, 14th inst., was a big event in the sporting history of that northwestern city. The hill climb was held on the Monroe street hill, 1,800 feet long with a rise of 166 feet.

The decorated parade which raised the curtain on the real competitive events was worth witnessing. There were more than 150 cars in line and of this number 60 were decorated. A number of non-competing cars were picked up along the route of march to the hill climb.

The Overland car, driven by Mrs. M. L. Wilson, won the first prize for decorations. The car was smothered in pink and white sweet peas and carnations, with a floral lap robe and the name of the car designed in flowers across the front. Second prize went to Mrs. A. L. Horenburg, whose Maxwell was a symphony in evergreens and scarlet crimson rambler roses. Fred Stone's Buick, which was decorated with poppies, roses and greens was adjudged fourth, and John Sengfelder got a pair of gauntlets when his Haynes car was picked fifth. Flags and bunting were its decorations.

The hill climb on Monroe street attracted a large crowd and especial interest centered in the free-for-all event, as the prize was a beautiful silver cup. Arthur Engquest, driving a Thomas-Detroit, covered the incline in 48 seconds and the nearest approach to that time was made by the Inland Motor Co.'s Stevens-Duryea, which was clocked in 58⅘. In the tryouts of the winning cars the Thomas-Detroit reduced its time to 45 seconds, with the Stevens-Duryea a few seconds slower. This latter car won in the class for cars between $2,000 and $2,500.

Dr. R. H. Hahn, driving a Ford, won the handicap event for cars selling for less than $2,000 when he climbed the hill in 1:32⅖, and he also won a victory in the class for cars under $1,000 in 1:34⅖. The class for cars between $1,001 and $1,500 went to J. T. Cronin, who drove a Maxwell. His time was 1:33⅕. M. J. Brayton, Oldsmobile, made the best time in the class for cars between $1,501 and $2,00, the watches registering 1:03⅕.

New Coast to Coast Record.

With the aid of a fellow student at Yale and a chauffeur, C. T. Crocker, a young Californian, has succeeded in establishing a new transcontinental record for a car driven by a single crew. His time from New York to San Mateo, Cal., was 20 days. Leaving New York on June 25th, he reached his destination on the 14th, inst., in 18 days running time, having lost two days at Cheyenne, owing to a broken wheel, which was rebuilt by a local wheelwright. The car used was a 1907 Fiat, in touring form except for the addition of fuel and oil tanks of large capacity, and skids in place of the usual mudguards. Practically no spare parts were carried, but plenty of mud tackle and a camping equipment were available.

The best time ever made from coast to coast by a car handled by a single crew without relay running was 33 days, until a month ago, when J. M. Murdoch, in his 30 horsepower Packard touring car, came from Los Angeles to New York in 32 days, with seven passengers, including two women and three children in the car. He laid up seven days on the road and made the trip in 25 days actual running. Crocker improves on this by 12 days gross time, and seven days running time. He comes within 5 days of the 15-day mark made by L. L. Whitman and a crew of five men, in the Franklin car, when Whitman and his men drove night and day in relays.

New York-Paris Race Near Finish.

Technically behind the American Thomas car in the New York to Paris "race," the German Protos car is, so to speak, "on its native heath," having entered the domain of its Kaiser. Before leaving Moscow on Tuesday last the car was stripped for speed, and, as its progress in Germany will probably be expedited as much as possible by the patriotism of "Vaterland," it is a safe bet that it will be the first of the contestants now on the road to reach the French capital. The Thomas car has had hard luck in Russia. It strayed to Viatka through misdirections given by Russians unable to understand signs, and on Wednesday night was 30 hours behind the Germans. While the American car has a big allowance of time because of its trip to Alaska, the handicap is unlikely to count in European summing up of the contest, and the German Protos car, should it escape accident and maintain its practical lead into the French capital, will be hailed on the other side of the big pond as the victor. Lieutenant Koeppen, its master spirit, already wears the imaginary laurel of the conqueror, in the estimation of the German people. The Zust Italian car is reported as having just reached Tomsk, in Siberia.

Proud of Its "P. S." Performances.

While "P. S." usually means the main part of a woman's letter, the Studebaker Automobile Co., of South Bend, Ind., has given it a new meaning by issuing an elaborate document with the significant abbreviation on the outside in red ink. In this connection it means "perfect score" and the printed matter on which it appears, when unfolded gives the details of fourteen notable races and road events in which Studebaker cars have won the "P. S."

LOWELL REVIVES RACE PROJECT

City Daddies Grant Use of Streets on Labor Day—Tyngsboro Selectmen also in Favorable Mood.

The project of a big automobile race at Lowell, Mass., nipped as the bud was ready to bloom just before the Fourth of July, has been revived and Labor Day is the new date fixed for the contest. The Lowell Automobile Club has secured permission from the board of aldermen to use certain streets in Pawtucketville for a race on that date. The city clerk is authorized to grant permits to automobile owners, not exceeding 12, to exceed the speed limit on that day in Pawtucketville or on any day to which the race may be postponed. The streets upon which the race will take place will be closed to other public travel on the day of the race.

As part of the roads to be used as a course for the race lie within the town limits of Tyngsboro, it is within the power of the selectmen of that town to forward the project or to leave it up to the Lowell authorities to provide a course wholly within the city limits. The selectmen are favorable in their attitude. At a hearing which they gave the only remonstrance was based on the matters of guaranteeing the townspeople against personal or property damage and the town itself against any expense for road repairs made necessary by the race. President Heinze and Secretary McKenna, of the Lowell Automobile Club, gave assurances concerning these matters and the selectmen referred the question to the town counsel, whose opinion will determine their final action.

Demonstrating Speed for City Solons.

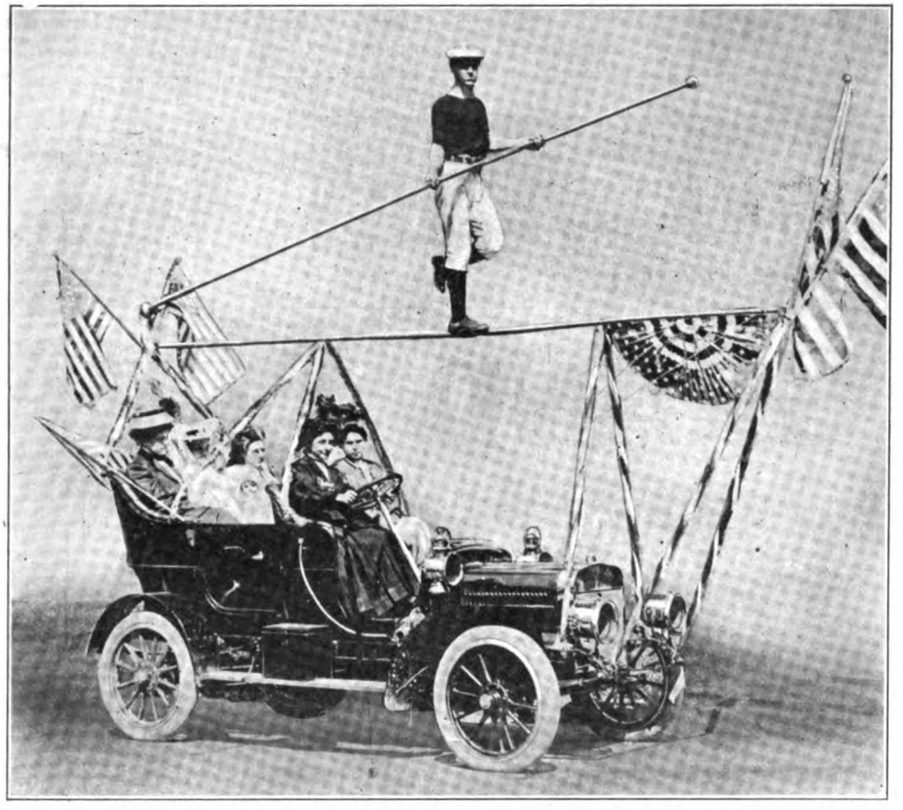
For the purpose of illustrating to the local legislators that the provisions of a new traffic ordinance, introduced in the board of trustees last week, will safeguard pedestrians and general traffic, members of the Sacramento (Cal.) Automobile Club put their cars at the disposal of the city's solons and demonstrated how fast they would be permitted to go if the bill was passed. The ordinance was framed by the automobile club and is a copy of the Los Angeles ordinance. It fixes the speed limit of 12 miles an hour for automobiles in the downtown congested districts, while twenty miles is the limit for the residence sections. Apparently the plan was as successful as it has been in numerous instances of a like nature. The trustees were unanimous in the opinion that the 8 miles limit is far too slow for the business section, and expressed the belief that 12 miles is none too fast. With regard to the outside streets, however, none of them was willing to subscribe fully to the 20 miles limit, as that seemed to them to "hit it up too fast."

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ACROBATIC FEATS ON RUNNING CAR

Clever Agent Utilizes Circus Parade for Odd Demonstration—Declines Invitation to "Go with the Show."

While automobiles have been used for many purposes for which they never were intended, the recent "stunt" of a citizen of Saginaw, Mich., is worthy of special notice, if for no other reason than because of its originality. The "stunt" in question, which furnished a striking illustration of the smooth running qualities of the friction driven Carter car, for which he is local agent, was performed by E. D. Doan. Doan took a car from stock and rigged up a horizontal pole over it, by bracing the latter on the ends of the frame and at the rear of the tonneau reinforced by braces so attached to the sides of the tonneau as to prevent either lateral movement or vibration from side to side, as shown in the accompanying illustration.



CIRCUS STUNTS TO SHOW THE CAR'S SMOOTH RUNNING

The psychological moment for Doan to demonstrate by the use of his attachment, the smooth running qualities of his car came when Ringling Brothers' circus arrived in town. Having secured the services of the 15-year-old daughter of a townsman to drive the car, he entered the machine in the usual "parade," while he, on top of the car did "tight rope" acts on the horizontal bar, balancing himself by the aid of the usual pole. The difficulty of the feat was further increased by the fact that the slightest jerk would have thrown him down among the passengers who comprised, in addition to the "chauffeuse," four ladies and a wee baby.

The demonstration passed off without mishap, however, and was successful in attracting the desired amount of attention to the car as well as to the enterprising performer. So thoroughly pleased with the performance were the Ringling Brothers, that they made an offer to Mr. Doan and his young driver to go with them for the remainder of the season. Doan felt that he could not leave his business, but consented to the extent of following the show to Bay City, where he appeared in the parade the following day.

Dust Laying Experiment on Streets.

Mayor F. D. Stafford, of North Adams, is practically certain to adopt a new method of street sprinkling on certain streets in that city that is believed to involve a solution of the dust problem. This is a method by which it can be used in an ordinary sprinkler, the fluid to be poured on the street and then sanded. The theory is that a street makes its own dust and with the coal tar coating over a street no dust can be made. The mayor is investigating and will probably try the experiment on three miles or so of the streets of that town. It is estimated that the cost of the method is about $300 a mile. One dressing does a year.

WHEN OWNER IS NOT RESPONSIBLE

Court Says He Isn't Liable for Accident Caused by Chauffeur to Whom He Lends His Car.

The owner of an automobile cannot be held responsible for injuries inflicted upon a third person by the vehicle when the chauffeur is driving the car for his own purposes without the owner's presence. Such is the law as interpreted by the Appellate Division of the Supreme Court of the State of New York, and the decision goes so far as to absolve the owner from legal responsibility even when he has consented to such use of his car. Justices Clarke, Ingraham and Scott concurred in this decision, Justices Houghton and McLaughlin dissenting.

George Cunningham sued Burton S. Castle for damages for injuries sustained in being run down by the defendant's automobile at Eighty-first street and Central Park West on September 19, 1904. In the lower court it was shown that the automobile was being driven by Harry Boes, Mr. Castle's chauffeur, who had received the owner's consent to use the car for "an hour or two" for his personal pleasure of business. A jury awarded a verdict for the complainant. The decision on the appeal reversing that finding and ordering a new trial, read by Judge Clarke, held in part:

"It is urged that the automobile was a dangerous instrumentality, and that, having been intrusted to the chauffeur, the liability of the master still attached, because of its dangerous character. The automobile is not necessarily a dangerous device. It is an ordinary vehicle of pleasure and business. It is no more dangerous per se than a team of horses and a carriage, or a gun, or a sailing boat, or a motor launch.

"If the gamekeeper had borrowed his master's gun and had gone from the estate on a hunting expedition of his own and had negligently shot a man, would the master be responsible because he was using that instrumentality, which might be dangerous if carelessly used, the gun?"

The dissenting opinion held in part:

"While a powerful automobile may not, strictly speaking, be deemed a dangerous instrument, it may become so if recklessly driven. They are so dangerous that the Legislature has prescribed that their ownership must be registered and the driver licensed, and that speed in different localities must be regulated. The defendant recognized this when he instructed his servant to be careful on the trip which he permitted him to make. If a railroad official should loan a locomotive to one of the company's engineers for the purpose of hurriedly visiting a distant locality, it could hardly be said that the engineer alone would be liable for injuries inflicted upon third persons."

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CEYLON PLANTATIONS NEED CARS

They Must be Good Hill Climbers, Says Consul Creevy—Peculiarities of the Cingalese Roads.

Although Ceylon at present boasts but one American made automobile among the 200 or more cars which are in use upon its highways, American Consul E. A. Creevey, of Colombo, sees possibilities in the market which are not to be ignored. Incidentally, he furnishes some advice which is of general value to exporters trading in other fields of commerce with foreign countries as well as to the possibilities presented by the tea and rubber producing island in the Indian Ocean.

"At present there are a few less than 200 automobiles in service in Ceylon, only one of them of American make," he remarks. "It would appear that there is need for several hundred more machines here, but whether the need would be recognized by those expected to purchase is a question. The field which, it is believed, could be developed profitably by automobile manufacturers, lies in the tea and rubber estates, of which there are about 1,200 on the island. Each estate needs an automobile, but as yet very few of the proprietors have taken steps to meet the want.

"The machine required in Ceylon should be a good hill climber, of moderate cost, and economical in operation. The vast majority of the plantations are situated in the mountains, and are reached by narrow, almost spiral roads, with heavy grades and sharp turns. It should be simple of operation and so constructed as to respond quickly to the touch of the chauffeur, as the driver of a car on a Ceylon mountain road is liable at any instant, in making a sharp turn, to find himself confronted by a heavily laden buffalo cars occpying the whole width of the road, and with a rocky wall on one side and a precipice on the other. The Colombo price of gasolene is 50 American cents per gallon, hence a successful car in Ceylon would necessarily be one using the minimum of that fluid.

"If the American automobile manufacturer entertains the idea that his machine may be sold in Ceylon by catalogue, let him dismiss that idea forthwith. Automobiles may be sold here only as the result of demonstration. The manufacturer, though he be thoroughly satisfied of the excellence of his car, cannot expect a contemplating purchaser, 10,000 miles or more removed from the sight of that car, to understand its capability as he does himself, with nothing but a printed catalogue to guide him. He should remember that in the development of his car he himself refused to accept the statement of his factory foreman as to the performance of any part of it, and was convinced of the truth only after the car had been taken out over the road and the working of the part referred to demonstrated.

"The American automobile manufacturer contemplating the capture of the Ceylon market should begin by sending out a representative and a fair sample of his machine, authorizing his representative to assure a purchaser that a supply of parts would be kept at Colombo. This last consideration is essential in the case of a machine the various parts of which are not standardized, as it is not to be assumed that a resident of Ceylon would knowingly place himself at the disadvantage of having to wait for a substitute part of his machine, in case of damage by accident, to be shipped from the United States."

Safeguard Against Leaky Pipe Joints.

To ensure permanence and positive avoidance of leakage, it is recommended by a foreign expert that pipe joints which are to be closed with asbestos-lined copper gaskets, be made up with a paste of graphite or black lead, and boiled oil. In this connection care should be taken not to daub the mixture on any threaded portions of the joint or its connections, as the paste becomes very hard after it has been permitted to set.

MICHELIN

FRANCE, ENGLAND, ITALY, AMERICA.

GRAND PRIX

Heavy Cars, July 7, 1908

	CAR	DRIVER	
1st	Mercedes	Lautenschlager	Michelin Tires as usual
2nd	Benz	Hemery	Michelin Tires as usual
3rd	Benz	Henriot	Michelin Tires as usual
4th	Bayard-Clement	Rigal	Michelin Tires as usual
5th	Mercedes	Poegge	Michelin Tires as usual
7th	Benz	Erle	Michelin Tires as usual
8th	Renault	Dimitri	Michelin Tires as usual
9th	Panhard	Heath	Michelin Tires as usual
10th	Germain	Perpere	Michelin Tires as usual
11th	Itala	Cagno	Michelin Tires as usual
12th	Bayard-Clement	Gabriel	Michelin Tires as usual

Michelins not only Won the Grand Prix, first and second day, the Targa Florio, at Briarcliff, Savannah, Ormond, Jamaica, and Elkwood Park—ALL the big events of this year—but EVERY world famous event since motor racing began

MICHELIN TIRE COMPANY

MILLTOWN, N. J.

NEW YORK, 1763 Broadway
CHICAGO, 1344 Michigan Ave.
DETROIT, 247 Jefferson Ave.
DENVER, 15 East Colfax Ave.
BOSTON, 895 Boylston Street
BUFFALO, 908 Main Street
SAN FRANCISCO, 308 Van Ness Ave.
CLEVELAND, 2001 Euclid Ave.

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VILLAGE COP SHOOTS UP A CAR

One of His Bullets Hits a Female Passenger—War Between Chicago Club and the Town Officials.

There is a duel on—if not "to the death," it threatens the penitentiary—between the Chicago Automobile Club and the village authorities of Glencoe. Of course, neither of these two bodies would be consigned to the gloom and hardships of prison life should the battle be to the possible finish; but they would be represented in the one case by T. P. Henderson, a member of the club, and in the other by Frank Moore, a special policeman, employed, with several others, by the village to enforce the automobile speed regulations on Saturdays and Sundays.

Henderson was passing through Glencoe in his motor car on Sunday, 12th inst., with several friends as passengers, his route leading him into a "trap" whereat Moore was the presiding genius. He failed to bring his car to a stop when commanded so to do and the cop proceeded to unlimber his shooting iron and make a target of the vehicle. One result of his little "schuetzenfest" was that one of the bullets, undoubtedly intended for the tank, struck Miss Buena Stribling, who was among Henderson's guests in the car, and she escaped injury only through the remarkable good fortune of wearing a pearl button on the spot where Moore's leaden messenger landed and glanced off.

As a sequel to this near tragedy the village authorities of Glencoe have threatened to put Henderson into the penitentiary for an "assault with intent to murder," while the Chicago Automobile Club has determined to prosecute Special Policeman Moore and qualify him for wearing a prison suit because of the shooting of Miss Stribling. Both sides will make a vigorous defense of the respective defendants in the proceedings, and it is evident that there is an abundance of acrimony to give to the trials a gingery tone. The village will base its serious charge against Henderson on the statement of Special Policeman Moore, who declared that when he stepped out into the middle of the road, showed his star, and ordered Henderson to stop, he neither slowed up nor turned out, but headed his machine straight for the officer. The policeman says he dodged out of the way just in time to escape being run down and that he fired two shots in the air before he aimed at the gasolene tank and fired the shot which hit Miss Stribling.

"The aiming of a large automobile going at the rate of over 20 miles an hour at an officer of the law in the discharge of his duty certainly is an assault with intent to kill," said Village Attorney Morton T. Culver, of Glencoe. "It is especially reprehensible when it is considered that it was done by a man charged with crime and a man several times convicted of crime. We are going to swear out a warrant for his arrest charging him with a felony, and we are going to try to send him to the penitentiary as a warning to reckless motorists."

On the other hand, Henderson declares that Moore's act was a "clear case of a policeman's officiousness," and he adds: "It was a regular hold-up. We were not violating the speed ordinance, so there was no reason why we should have stopped to satisfy the whim of the policeman. The speed limit in Glencoe is, I believe, 15 miles an hour. We were running at less than a 12-mile rate, and I knew it positively, so I paid no attention to the wave of the officer's hand."

In support of Henderson's declaration a number of other automobilists have declared that the village of Glencoe is practically "frying fat" out of the motorists, President Ira M. Cobe, of the Chicago Automobile Club, going so far as to openly invite prosecution for slander involved in his unqualified assertion that the whole thing is a matter of graft between the special policemen and Justice of the Peace M. T. Lane. In fact, some of the automobilists who hope to send Moore to the penitentiary hope to involve Lane also in the disaster, and to deprive him of his commission even if they fail to send him to prison.

It is asserted that the village of Glencoe makes a very good thing out of its war against motorists. Since January 1st there have been 76 automobile arrests, in which total fines of $1,230.50 have been imposed. During the six months between January 1 and July 1, the regular salary paid to the village attorney—a retainer of $20 a month—and $55 a month to Policeman Dennis—the one regular officer—amounted to $450. In addition approximately $200 was paid out during May, June and July to Frank Moore, J. R. Culver, Roland Herfurrd, James Brandl, L. C. Conrad and Harry Ford, who acted as special policemen on Saturdays and Sundays in the campaign against the motorists. The special men were paid at the rate of $10 a day, while they served, so it is evident they are expected to pay for their "salt."

Palestine to Have Automobiles.

As a result of the first practical example afforded Palestine of the success of the modern motor car, a great deal of local interest has been aroused, and several people are planning to purchase cars, it is reported by the American Consul at Jerusalem. The "demonstration," which was wholly incidental to the pleasure tour taken by a party of American travelers, passed off successfully, even roads that had been pronounced impassable to the car being traversed without difficulty. In order to enter the sacred precincts of the Holy Land, it was necessary to obtain permission from the Turkish Imperial Government.

NEWARK CLUB AVOWS LOYALTY

Rumors of Probable Secession from State Federation Set at Rest—Fight Against Frelinghuysen Law Approved.

Rumors current to the effect that the New Jersey Automobile and Motor Club of Newark contemplated withdrawal from the Associated Automobile Club of New Jersey were finally set at naught by action taken by the board of trustees on Thursday evening, 16the inst. The meeting was an extended one, and all the matters included in the rumors, including one to the effect that the members of the club disapproved of the movement to test the Frelinghuysen law, finally were disposed of by the adoption of the preamble and resolutions which follow:

Whereas, Statements have recently appeared in the press representing that the New Jersey Automobile and Motor Club was about to sever its relations with the Associated Automobile Clubs of New Jersey and also its relations with the American Automobile Association, and

Whereas, Statements have also appeared that this club was not in accord with the policy of the Associated Automobile Clubs of New Jersey in testing the constitutionality of the law; therefore be it

Resolved, First, That this club is and always has been loyal to the Associated Automobile Clubs of New Jersey and expects to remain so, believing that the fundamental principle of organization is absolutely necessary for the success of all undertakings.

Second, That this club is in hearty accord with the management of the American Automobile Association and has no intention whatever of severing its relations with the association, but desires to co-operate with it in its efforts to better automobilists and automobile interests.

Third, That this board is in hearty accord with the proposed suit to test the constitutionality of the law, and to subscribe its necessary pro rata share of the expense of same in compliance with the wishes of the members of the club as expressed by a resolution unanimously passed at the annual meeting of the club on May 4, 1908.

Fourth, That copies of these resolutions be sent to the secretaries of the American Automobile Association and Associated Automobile Clubs of New Jersey, and to the press.

Rockefeller to Become a Real Tourist.

The opportunity of selling him his own gasolene at outrageous rates may be presented to those garage men who are fortunate enough to be called upon to replenish John D. Rockefeller's touring car, which it is thought he is going to use for a more or less extensive trip this summer. Heretofore the oil king has confined himself chiefly to runabouts and limousines, but the recent purchase of a White steamer, of the strictly touring car pattern, coupled with a request to the White touring bureau for maps, road data, and license information, has given rise to the belief that he is going to become a real automobile tourist.

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The Week's Patents.

886,701. Change Speed Gear. Peter Hesselius, Chicago, Ill. Filed March 5, 1907. Serial No. 360,651.

1. In a variable speed power transmitting device, the combination with a driving shaft, and a driven shaft, of means for imparting rotation from said driving shaft to said driven shaft, said means comprising a plurality of gear wheels mounted for separate rotation on one of said shafts and means for non-rotatively securing said gear wheels to their shaft, said latter means comprising a radial notch in the bore of each gear wheel, radially movable keys mounted in the shaft, and a longitudinally movable bar mounted in the shaft and provided with a slot adapted to receive said keys.

886,738. Transmission Gear Casing. Angelo Tedeschi, Milan, Italy. Filed July 10, 1907. Serial No. 383,085.

1. In a gear casing for draft gears, a continuous frame adapted to encircle the gears, and a light sheet metal cover inclosed and supported by the frame.

886,760. Carburetting Mechanism for Internal Combustion Engines. Alanson P. Brush, Detroit, Mich. Filed Feb. 3, 1906. Serial No. 299,281.

1. In a fuel feeding device for internal combustion engines provided with a mixing chamber or air passage, a fuel reservoir discharging into the mixing chamber, a valve for controlling the discharge of the fuel into the mixing chamber, a balanced air valve for controlling the admission of air into the mixing chamber for atomizing the fuel, and means to adjust said air valve to vary the quality of the mixture at low speeds without materially varying the quality of the mixture at high speeds.

886,835. Means for Attaching Pneumatic Tires. Amos C. Miller, Chicago, Ill. Filed Aug. 23, 1905. Serial No. 275,423.

1. The herein described means for securing a pneumatic tire to a vehicle wheel, comprising a metallic wheel rim having a circumferentially depressed tire seat centrally located, a marginal inclined or beveled seats in combination with a pneumatic tire having a base portion adapted to said central seat and lateral flanges adapted to said inclined seats, and contractible retaining bands seated upon said flanges and adapted to clamp the base and flanges to their respective seats, substantially as described.

886,911. Variable Speed Gear. William Wolter, Burress, Neb. Filed Oct. 4, 1907. Serial No. 395,901.

1. In a friction transmission gear, a driven shaft, and plurality of driving shafts arranged around the same, a cone upon the driven shaft, oppositely disposed cones upon the driving shafts, interposed discs between said cones, and means for shifting said discs longitudinally of the cones, substantially as described.

886,990. Motor Driven and Steered Fore Carriage for Automobiles. Louis Krieger, Paris, France. Filed Jan. 10, 1906. Serial No. 295,502.

1. In a vehicle, the combination, with an axle, and an axle sleeve pivoted to the axle and provided with hub-bearings at each side of the pivotal point, of a wheel having a hub journaled upon the said hub-bearings, a motor carried by the axle sleeve, and gearing intermediate the wheel and motor whereby the wheel is driven.

887,001. Transmission Mechanism. Louis E. Mahout, Paris, France. Filed Jan. 22, 1906. Serial No. 297,193.

1. An apparatus for the transmission of motion applicable to automobiles, characterized by the combination of two cones, arranged in front of one another, a shaft upon which the driven cone is slidably mounted, a belt connecting the two cones, two pinions of different diameters movable along the shaft of the driven cone, a driven shaft, and two toothed wheels carried by the driven shaft and with which the two pinions can be thrown into mesh, substantially as described.

887,002. Cushion Attachment for Automobiles. James E. Marriner, Newton, Mass. Filed Jan. 7, 1907. Serial No. 351,130.

1. The combination with a longitudinal supporting bar of a vehicle body, the axle, and a spring secured at its center to the upper face of the axle and having its ends secured to said bar, of a socket block secured upon the upper face of the spring directly above the axle by the means securing the spring to said axle and having a hollow piston projecting upward therefrom, a second socket block secured to the lower face of the supporting bar and having a cylinder projecting downwardly therefrom freely receiving the piston, a cushion ring between the socket blocks and surrounding the piston and cylinder of the socket blocks, and toggles connecting the socket blocks at diametrically opposite sides, between the supporting bar and spring.

887,013. Hydrocarbon Engine. James W. Packard and William A. Hatcher, Warren, Ohio, assignors, by mesne assignments, to Packard Motor Car Company. Filed Feb. 12, 1902. Serial No. 93,755.

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1. In an explosive engine, the combination with the cylinder of a water jacket surrounding the cylinder and securely connected at its ends to the ends of the cylinder, said water jacket having a series of transverse or annular corrugations, whereby opening of the joints between the jacket and the cylinder due to relative expansion and contraction is prevented.

887,117. Shock Absorber. William Parfrey, New York, N. Y. Filed Dec. 28, 1906. Serial No. 349,781.

1. A shock absorber comprising a shaft, a toggle joint connected therewith, and springs on said shaft adapted to limit the movement of said joint in either direction vertically.

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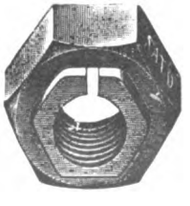
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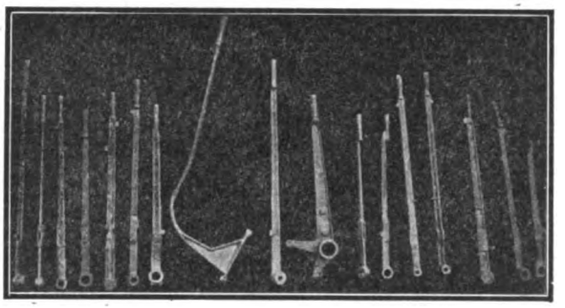
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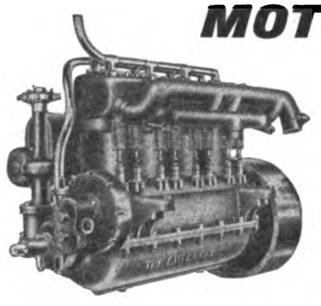
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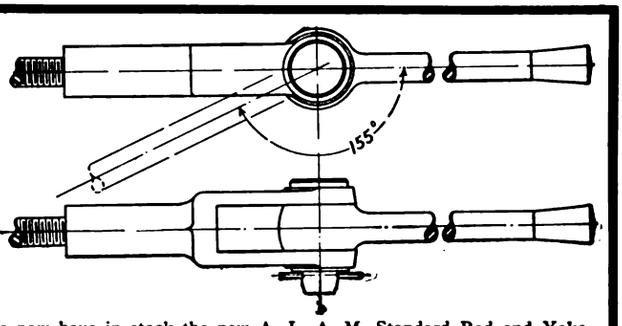
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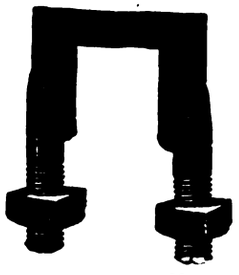
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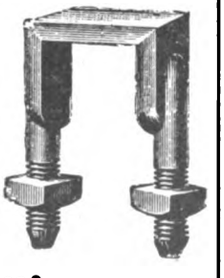
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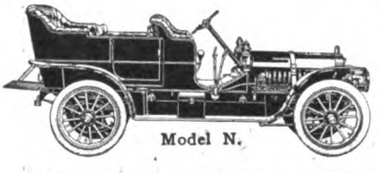
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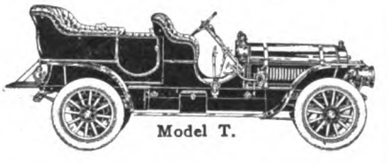
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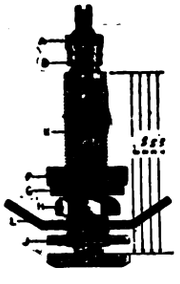
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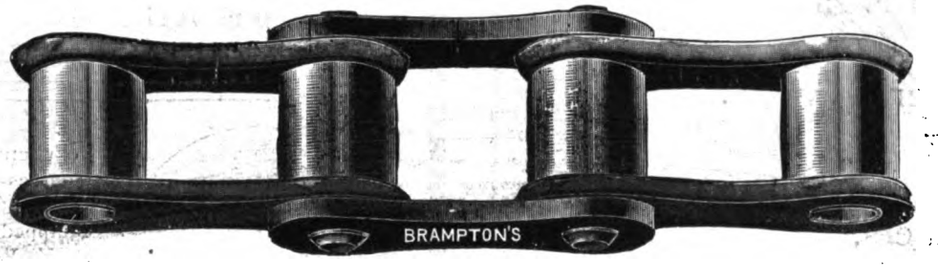
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the word
of the dealer who
sells you.

If the tire
goes bad
you have the privilege
of carrying on
one end
of a controversy
with the factory—
that's all.

The tire maker
makes good—or doesn't
as he sees fit.

There's one exception—
AJAX—

Every AJAX tire
is guaranteed
for 5000 miles.

Write for copy of Guarantee, stating what size tire you are using.
Address Dept. A.

AJAX-GRIEB RUBBER COMPANY
GENERAL OFFICES: N. E. Cor. 57th St. and Broadway, New York.
Factories: Trenton, N. J.
BRANCHES:
New York, 1776 Broadway — Denver, 1529 Cleveland Place
Boston, 819-a Boylston St. — Seattle, 1102 Broadway
Chicago, 1418 Michigan Ave. — San Francisco, 460 Golden Gate Ave.
Detroit, 743 Woodward Ave. — Los Angeles, 1040 S. Main St.
Agents in all large cities.

THE STEPNEY Spare Motor Wheel

ON AND GONE IN LESS THAN A MINUTE



Punctures and other tire troubles have no terrors for the motorist whose car is equipped with the **STEPNEY WHEEL.** If a tire goes wrong it is only the work of a moment to attach the **STEPNEY WHEEL** and be off again with no further delay.

Isn't it worth having, for the peace of mind alone that it brings?

Write for Catalogue D.

Spare Motor Wheel of America, Ltd.
236 Michigan Avenue, CHICAGO, ILL.

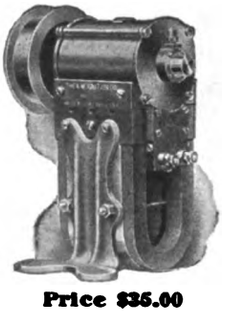
THE K-W MAGNETO

Model F

Has bracket as shown for attaching to frame of car. Made especially

For Ford Runabouts

Good on any car.



High in Quality—Low in Cost
Perfectly Reliable—Easy to Apply
More Power—Less Fuel

Price $35.00

It starts the engine easily without batteries and runs it faster and better than any battery because it gives a hotter spark. They run in ball bearings and have no moving wires or brushes to give trouble and wear out. They are made to last and they do last. They are the cheapest that is good and there is nothing better at any price.

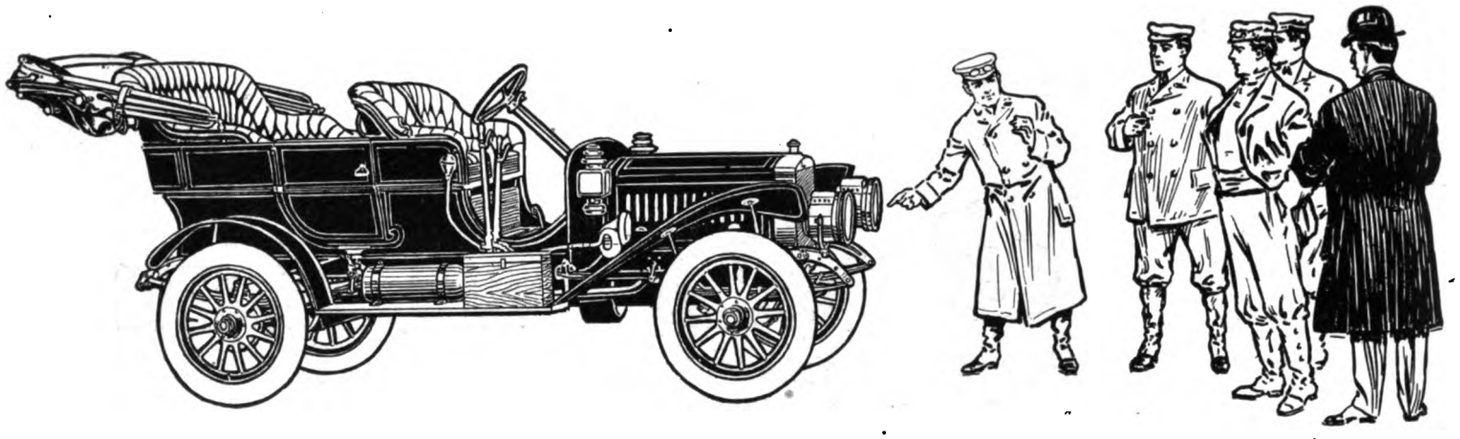
We also make high grade Coils and Plugs and the K-W Master Vibrator. Get our catalogue.

THE K-W IGNITION COMPANY
38 Power Avenue, CLEVELAND, OHIO

REPRESENTATIVES:
A. H. GREEN & CO., 1686 Broadway, New York.
W. J. FORBES, 220 Congress St., Boston, Mass.

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What a Chauffeur Knows About Automobile Prices



THERE'S going to be a grand wakin' up some day soon on automobile prices. I'm next to the game and I *know*," said a chauffeur.

He was proudly extolling the virtues of his car to his professional brothers.

"What's the use of paying from $3000 to $5000 for a motor car?—that's what I'd like to know.

"You've got to show *me* where you fellows' cars puts it over the Mitchell.

"*I've* driven your foreign cars that cost their owners $3000 duty *alone*, and I've driven *American* cars like *Johnson's* there and *Dorsen's* that set their bosses back $3000 and $5000.

"I've *lived* in cars like *them*—*slept* in 'em—driven 'em all day long—through rain storms and over roads that were *fierce*.

"I've babied 'em up hills that they absolutely refused to take on the high.

"I've taken 'em down and put 'em together in the garage.

"I *know* 'em—know 'em *all* from radiator to tail-light and if you fellows think you can *'show me'* just where your cars have got *The Mitchell* skinned, come out on the road with me and let's *see* if you can,

"The boss paid $2000 for *this* car. She's got four of the smoothest cylinders *you* ever saw and she's got *horse-power*—35—and she's done better on hills and under all road conditions than any 50 h. p. $5000 cars *I* ever saw, and I've driven 'em all and run up against *every test you can name*.

"*Your* bosses may like to pay $5000 for a car but *mine* was *wise*.

"You know there's a good *many* men in this country that shut their eyes tight on $2000 cars merely because they take it for granted that a $5000 car ought to be $3000 *better*. It *ought* to be all right—but *is* it?

"I want the chauffeur that *thinks* his car is $3000 better than the Mitchell to *prove up* with me—in *speed* or *power* or *hill climbing* or *any* old thing he thinks he's *better* at—*that's* all.

"*Yes* sir, if a man's in doubt about the *car* he wants, let him do what my *boss* did—make a 50 or a 500-mile *test* in a *Mitchell*.

"Any agent will take him out if he's interested in gettin' a car.

"That'll 'show him' what it showed my boss—and save him about $3000.

"Beg pardon, sir? Why, yes sir—write to the Mitchell Motor Car Company, 284 Mitchell St., Racine, Wis., and send 10c. for Art Catalog.

"Well, any of you fellows comin' out? I've got ten dollars in my pocket that says The Mitchell ain't $3000 behind *anybody's* car."

Standard Manufacturers
A. M. C. M. A.

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NEW YORK-PARIS RACE

The Most Severe Test Bearings Were Ever Subjected To.

F & S ANNULAR BALL BEARINGS

CARRY THE PROTOS CAR 21,080 MILES WITHOUT DEVELOPING A SINGLE DEFECT

POSTAL TELEGRAPH — **COMMERCIAL CABLES**

CLARENCE H. MACKAY, PRESIDENT.

CABLEGRAM

REGISTERED TRADE-MARK. DESIGN PATENT No. 30000.

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From Schweinfurt July 27/08 190

Bearing Ny (J S Bretz Co, Room I004 Times Blg)
Protos car arrived first in Paris. made world record race.
20000 kilometer on our bearings without any defect.

FICHTEL & SACHS.

No Inquiry respecting this message can be attended to without the production of this paper. *Repetitions of doubtful words should be obtained through the Company's offices, and not by DIRECT application to the sender.*

This Demonstrates the Superiority of

THE DEPENDABLE KIND

The leading cars of Europe and America are equipped with F. & S. BEARINGS

J. S. BRETZ COMPANY, Sole Importers

TIMES BUILDING, NEW YORK

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Mongrel or Thoroughbred?

NOW IS THE TIME for you, Mr. Thoughtful Dealer, to decide what you will sell in 1909.

WILL IT BE A MONGREL? a car assembled from parts carried together from all over the country and hammered into shape as well as may be?

OR WILL YOU SELL THE THOROUGHBRED—a homogeneous mechanical masterpiece, every single part of which is the result of the same genius that devised the whole?

"ASTOUNDING," "MARVELOUS," "WONDERFUL," are the terms with which some assembled cars are now tagged, though they are astounding, marvelous and wonderful only to the assemblers, who like Rip Van Winkle, have been dozing in the growing woods of automobiledom and who now, bewildered by the progress that has been going on, seize upon time-tried and long-established practices and herald their adoption by the assemblers as brand-new discoveries.

LET'S REASON IT OUT: On the one hand you have the assembled car, with an engine bought from one manufacturer, a frame from another, and a transmission from a third, and so on down to the last rivet. The maker of the engine, the mill in which the frames are pressed, the transmission man, all derive their separate profits, leaving no other way to the assemblers to obtain their rewards than by skimping the quality of their "product."

AND THEY DO IT—THEY MUST! When you examine some of these astounding cars you will be truly astounded on finding that the four-cylinder engine is cast in one piece and has only two main bearings, whereas the Maxwell has four cylinders and five main bearings. You know well enough that making a motor with only two bearings is equal to leaving the engine to its own devices as far as alignment is concerned.

IT WILL BE A TOUGH JOB FOR THE DEALER to convince the purchaser who is wise that some four-cylinder engines of small dimensions will develop as high as 30 horsepower—because they can't.

MAXWELLS ARE A HOME-GROWN AMERICAN PRODUCT. The use of Maxwell features in Maxwell cars was neither a heaven-given inspiration nor the aping of foreign design, but the outcome of sound engineering sense.

WHEN 10,116 MAXWELL OWNERS testify to the excellence of their cars, all of which have been sold by Maxwell dealers, then the Maxwell proposition is one that you can't afford to pass by.

BEFORE HITCHING YOUR WAGON TO A STAR it will be wise for you to find out all about a dealership for Maxwells, the success of which is past and present, instead of lying in the dark and distant future that has swallowed so many wonderful cars that have been marvelous chiefly in their complete and rapid disappearance from the field of legitimate competition.

Benj. Briscoe
President.

MAXWELL-BRISCOE MOTOR CO.

Standard Manufacturers A. M. C. M. A.

P. O. Box 106, Tarrytown, N. Y.

Factories: TARRYTOWN, N. Y. NEWCASTLE, IND. PAWTUCKET, R. I.

Address communications to Tarrytown, N. Y.



Comparison is Proof Positive

Equip one wheel of your auto with a

"Firestone"
TIRE

"The Tire of Sterling Quality"

Compare its wearing quality with that of the other tires.

We urge you to do this for it will convince you that "Firestones" are the tires you should use—and you will be ever thankful for this hint.

TRY IT NOW!

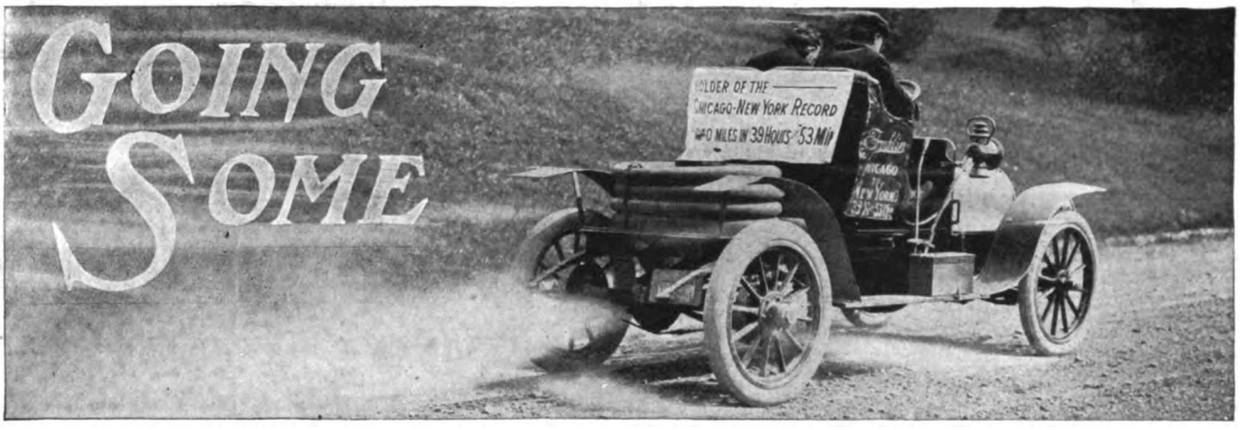
Branches and Agencies Almost Everywhere.

Firestone Tire & Rubber Co.

AKRON, OHIO



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The above is from a photograph of the Franklin Model "D" Runabout, which lowered the Chicago-New York Record to 39 hours, 53 minutes, with an average speed of 20 miles an hour over 1,060 miles, including stops for supplies. From Cleveland to Buffalo, a distance of 214 miles, this car beat by one hour the Chicago-Boston-New York Express, which carried the relief relay of drivers.

Just how much the

TIMKEN ROLLER BEARINGS AND STEERING KNUCKLES

with which this car is equipped, had to do with making this record can be reckoned by adding up: The elimination of all friction—Saving in wear and tear on the engine, and the faith of the drivers that **TIMKEN PRINCIPLE AND TIMKEN QUALITY** insured them against break-downs and accidents. More than 60% of all the manufacturers of High Grade Automobiles equip their best cars with TIMKEN PRODUCT—There must be a reason. If you would like to know WHY, write us.

THE TIMKEN ROLLER BEARING AXLE COMPANY, Canton, Ohio

Branches: 10 East 31st Street, New York. 429 Wabash Avenue, Chicago.

MORGAN & WRIGHT, DETROIT

are making a 33 x 4 tire which can be applied on a 32 x 3½ rim, and a 31 x 4 tire for use on a 30 x 3½ rim.

GET PARTICULARS AND PRICES

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DOW TUBES

(The Best Tubes Ever Manufactured)

make a

PERFECT SCORE

in the

GLIDDEN TOUR

Dow Tire Company, Saratoga, July 23, 1908.
2000 Broadway,
New York.

I have run through the entire Glidden Tour with my Stoddard-Dayton Car, No. 107, with practically no tire trouble, using Goodrich casings and Dow Non-Deflation Tubes.

The front wheels have the same casings and Tubes with which I started, and I have not even had a pump to them since they were first inflated.

The right rear wheel has had two shoes, one having been worn to the fabric by sliding the wheels through braking on water breakers, and the same Dow Tube is in the second shoe.

The left rear wheel had the casing terribly cut by a bottle and blew out. A new casing with Dow Tube was put in and is still running perfectly.

(Signed) G. P. MOORE.

All Live Dealers Sell Dow Non-Deflation Tubes

DOW TIRE CO., 2000 Broadway, New York

889 Boylston St., Boston. 506-8 N. Broad St., Philadelphia

DRAIN or GULLY

Whether or not you are warned by signal that you are approaching a drain or gully—be warned that

WEED CHAINS

are necessary when you are negotiating in mud or sand—and on wet, slippery streets. They grip and hold the wheels to the road. They positively prevent skidding or slipping on greasy and wet pavements. They preserve tires and enable the heaviest automobile to climb hills easily. They prevent lost traction and save gasolene consumption.

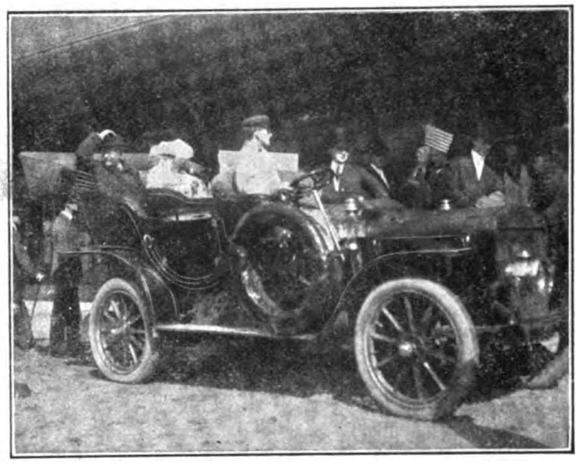
Fit any standard tires; are readily attached and detached. Write for Bulletin

WEED CHAIN TIRE GRIP COMPANY

35 Moore Street, New York

THE INCOMPARABLE WHITE

THE CAR FOR SERVICE



Write for White Bulletin No. 15

The above illustration is reproduced from the new White Bulletin No. 15, an attractive little booklet devoted to some of the more important automobile events of the last few months. The leading articles are "The New Road Record Between San Francisco and Los Angeles," "The Fort George Hill Climb," "The Quaker City Reliability Contest" and "The Harrisburg Reliability Contest." In addition to these four detailed accounts of White victories, brief space is given to the numerous minor contests in which the White has carried off first honors; also, the activities of private owners of White cars and the doings of "Government White Steamers" in this and other countries receive attention. We believe that you will find this booklet of interest.

A POSTAL TO US BRINGS A COPY

THE WHITE COMPANY

CLEVELAND, OHIO

PITTSBURG, 138-48 Beatty St. ATLANTA, 120-122 Marietta St.
SAN FRANCISCO, 1460 Market St. CLEVELAND, 407 Rockwell Ave.
NEW YORK CITY, Broadway at 62d St. BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St. CHICAGO, 240 Michigan Ave.

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Rambler



Model 31, Price $1,400

Other Models, $1,000 to $2,500

YOU can do all kinds of work with this car as a handy Runabout without the tonneau; then put the tonneau on and take your family or friends for a ride in a roomy Five-Passenger Touring Car.

Many exclusive features make it the most remarkable two-cylinder car in this country selling at $1,400.

The powerful engine makes it a hill climber; the long wheel and full elliptic springs provide great comfort; you glide over rough roads without a jar.

It is easy to care for and always clean because of the few moving parts and the enclosed power plant, impervious to dirt, mud and water, and oil tight with proper lubrication.

Immediate access to every working part is provided. The low cost of maintenance is due to simple construction, small fuel and oil consumption and protection of parts against injurious road material.

THE CAR OF STEADY SERVICE

A Postal will bring you the facts.

Please write your name and address and "Model 31" on a postal and mail to us today. You will not obligate yourself in the least

THOMAS B. JEFFERY & COMPANY, Main Office and Factory. **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, July 30, 1908. No. 18

MAMMOTH MERGER IN PROSPECT

Buick and Maxwell-Briscoe Companies Reported to be Arranging a Ten Million Dollar Combine.

A merger of the Buick Motor Car Co., of Flint, Mich., and the Maxwell Briscoe Motor Car Co., of Tarrytown, N. Y., and Newcastle, Ind., is at present in process of formation, according to reports from Detroit. No announcement of the merger has as yet been given officially, but the plans that have so far leaked out provide for a capitalization of $10,000,000 for the combined companies, an increase of $6,000,000 over the total capitalization of the companies separately.

The Buick company is capitalized at $2,000,000 common and $500,000 preferred, and the Maxwell-Briscoe company at $750,000 common and $750,000 preferred. For the past three months there has been considerable activity in the stock of both concerns, the Buick common advancing from 90 to 125, and the Maxwell-Briscoe combined from 145 to 165. There has not been much trading in the Maxwell-Briscoe stock, however, because of the fact that it is so closely held. It is thought that the old stock will participate in the division of the increase.

A report that the underwriting of the combine would be in the hands of J. P. Morgan & Co., has been officially denied by that concern. President Durant, of the Buick company and Richard Irvin, treasurer of the Maxwell-Briscoe company, have been in frequent conference this week, it is said, arranging the details of the transaction.

"Blue Cabs" to be Made at Bristol.

In order to make taxicabs and parts for the new American Taxameter Cab Co., the $1,500,000 concern whose stock flotation was announced in last week's Motor World, several of the men interested in the company have started an enterprise in Bristol, Conn., which is to be known as the Bristol Engineering Co. The organizers are Albert F. Rockwell, president of the New Departure Mfg. Co.; De Witt Page, secretary of the New Departure Mfg. Co., and F. E. Moskovics. Both Rockwell and Moskovics are directors in the cab company, of which Moskovics is also the engineer. While final organization papers have not as yet been filed, Rockwell has been chosen president; Page, vice-president, and Moskovics secretary-treasurer.

Would Put Aurora in Bankruptcy.

Bankruptcy proceedings against the Aurora Motor Works, of Aurora, Ill., have been commenced. Efforts are being made by some of the creditors to have a trustee appointed to carry the business forward, to sell the unfinished goods and to fulfill existing contracts. It is also thought possible that certain original stockholders can be persuaded to place a large amount of money in the treasury as the balance due upon the stock not paid in full. If this is done and manufacturing and selling continued for a reasonable time, the creditors will lose nothing.

Berkshire Receivership Holds.

The motion to have the receivership of the Berkshire Motor Car Co., of Pittsfield, Mass., dissolved has been overruled by Judge Bishop at Pittsfield. Attorney George A. Prediger urged the motion on behalf of the company, but opposition was presented by Attorney Joseph W. Lewis on the ground that the petitioners for the receivers should be given proper consideration.

Muncie Parts Sues Bartholomew.

The Muncie Auto Parts Co., of Muncie, Ind., has filed a praecipe in the United States court at Peoria, Ill., in a suit for $15,000 against the Bartholomew Co., automobile manufacturers in Peoria. The suit is brought by the receiver of the Muncie company, and is the result of a dispute three or four years old. Each side claims that the other owes it money.

POPE REORGANIZATION PLANS

Creditors to be Paid in Full and a New Company Created—Reduced Capitalization.

A complete reorganization of the Pope Mfg. Co., by which the creditors will get 100 cents on the dollar for their claims, together with 6 per cent. interest, is under way and will probably be completely effected before November. Since the Pope company went into the hands of the receivers one year ago, it has by their excellent management been brought to a point where its affairs will permit of all the creditors being paid in full; and the subsequent reorganization, underwritten by New York and Hartford bankers, with the co-operation of the principal stockholders, will once more place the concern to the forefront in the trade, capitalized on a reasonable basis and with its production concentrated at its Hartford and Westfield plants.

The terms of the reorganization provide for a reduction of the capitalization from $22,500,000 to $6,500,000, and the issuing of $800,000 worth of 6 per cent, mortgage notes, payable in three lots in one, two and three years, respectively, together with the creation of an entirely new company, to take over the properties and assets of the old company. The new company is to have $4,000,000 in common stock and $2,500,000 in preferred stock, and it is estimated that by operating only the Hartford and Westfield plants the earnings should be not less than $400,000 per annum. Holders of the outstanding preferred stock in the old company, amounting to $2,391,000, are to receive 75 per cent. of the par value of the old stock in new preferred stock and 83 per cent of the par value of the old stock in new common stock. To effect this will require the exchange of $1,793,250 of the new preferred stock and $1,984,530 of the new common stock. Holders of the second preferred stock in the old company get 20 per-

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cent. of the value of the old second preferred stock in new common stock. To redeem the $8,625,100 worth of this old second preferred that is outstanding, will require $1,725,020 of the new common stock. The common stock in the old company will have no participating value in the new.

The owners of first and second preferred stock in the old company are to deposit their stock with the reorganization committee, which will buy in the old company's assets and properties after the receivers have paid off all the outstanding indebtedness, when the new company will be formed and the new stock issued. For its services in financing the transaction and in agreeing to buy up the $800,000 worth of 6 per cent. mortgage notes which the new company is to issue, the underwriters are to take $500,000 worth of the preferred stock in the new company, and $90,450 in new common stock.

The distribution of the securities of the new company upon its starting business would therefore be as follows:

	Preferred Stock.	Common Stock.
Syndicate for $800,000 cash	$500,000	$90,450
First preferred stock	1,793,250	1,984,530
Second preferred stock	.....	1,725,020
Balance in treasury	206,750	200,000
Total	$2,500,000	$4,000,000

For the $800,000 in cash supplied by the syndicate there is the corresponding issue of $800,000 in notes, which must be added to the preferred and common stock to obtain the total of security liabilities.

The preferred stock will be entitled to cumulative dividends at 6 per cent. from August 1, 1908, and no dividends on the common stock will be made until all back dividends on the preferred are paid up. Similarly no dividends on any of the stock will be paid until all the notes taken by the underwriters are paid.

Atlas Adding New Buildings.

The Atlas Motor Car Co., of Springfield, Mass., has just given out the contract for the building of a three-story addition to its plant on Birnie avenue. The structure, which will be a combination of wood and brick, will be ready by the first of October, and is expected to make possible a production of 600 cars a year, including taxicabs which the company is now building in addition to commercial trucks.

Stevens a Manager for Midland.

Charles L. Stevens, formerly with the Hartford Suspension Co., and latterly located in Denver, returns to New York after two years, as the Eastern sales manager of the Midland Motor Car Co., of Moline, Ill. His headquarters are at the Allenhurst Garage, the New York home of the Midland.

Gibb's Tire Gets Paternal Backing.

Another new tire, having a combination of rubber and springs, is to be manufactured in Little Rock, Ark. The inventor is Fred Newton Gibb, whose father, Frank W. Gibb, an architect, has formed a company for its manufacture after having tried a set out on his car. The sheriff, several physicians and other citizenry are interested.

Hartford to Have Outdoor Show.

A pretentious outdoor automobile show is to be held at Hartford, Conn., in connection with the Connecticut fair and grand circuit races at Charter Oak Park, September 7 to 12. It is to be known as the Connecticut State Fair Association automobile show, but will be under the management of Fred W. Dart and E. G. Biddle, of the Hartford Automobile Dealers' Association. The exhibition will be given in a huge tent, with spaces for car exhibits and accessories. Electric lights and band music will help make it interesting until 10 o'clock at night.

Bennett Broadens His Territory.

The New York branch of The White company will hereafter be known as the Eastern Branch, and George W. Bennett will take the title of Eastern sales manager. The territory to be handled by the Eastern Branch comprises New York State as far as Rochester, the eastern counties of Connecticut, part of Berkshire county, Mass.; the entire States of New Jersey and Delaware, and the eastern half of Pennsylvania. The office of The White Co. in Philadelphia becomes a sub-branch under the control of Manager Bennett.

Elgin Takes Hold of Hilger's Tire.

The Elgin Automobile and Spring Tire Co. has been formed in Elgin, Ill., to make Bernhard Hilger's spring tire for motor vehicles. Capital from Elgin and from South Bend, Ind., is interested. Hilger has turned in his stock in an old company that was organized to manufacture the tire, and has taken 51 per cent. of the stock of the new enterprise. The following officers have been chosen: C. O. Lightner, president; George R. Thompson, vice-president; J. C. Kraton, secretary; and J. D. Gaylord, treasurer.

Springfield Springs a Spring Tire.

A modest 14 per cent. is being promised investors in the preferred stock of the Flexible Tire Co., of Springfield. The $100 shares are being offered in the local papers for $50 a share, and prospective purchasers are invited to take a free ride on its spring and rubber tires to assure themselves as to the merits of the invention.

Oldham Perfects a Farm Truck.

Experience among the great wheat fields and farms of Iowa has moved W. F. Oldham, the retiring president of the Auto Thresher and Implement Co., to design a motor farm truck which in addition to being able to transport farming machinery from one point to another, is also capable of supplying power to threshers, separators, corn shellers, huskers, and the like. The power plant is a four cylinder motor. Among other special features, the truck is equipped with traction wheels for country roads and "sheath" tires—not skirts—for city pavements. A company is being formed in Sioux City, Ia., to manufacture and market the truck.

Shelby Starts a New Tube Mill.

Following the destruction of the Shelby steel tube mills at Shelby, O., some six weeks ago, the new Shelby Tube Co. has been perfected by the election of the following officers and directors: President, J. C. Fish; vice-president, C. M. Skiles; second vice-president, C. S. Hook; general manager, A. C. Morse; secretary, Howard Seltzer; treasurer, James Brubaker; directors, J. C. Fish, Charles Hook, G. M. Skiles, A. C. Morse, J. A. Seltzer, Roger Heath, Edwin Mansfield, H. W. Hilderbrandt, T. J. Green, Jonas Feigher, Y. O. Peters, Robert Greer, J. W. Williams, R. P. Bricker and C. S. Moore. The total amount of capital subscribed is $250,000. The company is incorporated for $500,000.

Flexible Wheels Their Hope.

Easthampton, Mass., is looking forward to the establishment of a great manufacturing enterprise in its borders hinging around a new flexible wheel for automobiles in which a number of Springfield men are interested. The Barnett machine shop and the old Brown wagon factory are to be used for making the new wheel, according to the plans that have been announced. The company will be formally organized in Easthampton on August 28th.

Triumph Tire to be Made in Wheeling.

With an authorized capital of $1,000,000 and a paid in capital of $200, the Triumph Automobile Tire Co. is shortly to start up in Wheeling, W. Va., at a factory which has been obtained at No. 40 Zane street. The incorporators include C. K. O'Hara, of Akron, O.; Henry E. Keyes, Charles O'Deer, W. E. Johnson, of Homestead, Pa.; and K. P. Stewart, of Wheeling.

Reliance Yields to Owosso's Offers.

The Reliance Motor Co. is packing up preparatory to its removal from Detroit to Owosso, Mich. The latter town was in competition with Adrian and Lansing, Mich., in trying to get the Reliance company, but Owosso's offers finally proved the most alluring, including as they did, the purchase of some $200,000 worth of stock.

Burdick Bringing Out a New Car.

Under the name of the Burdick Motor Car Co., a new concern has been started in Eau Claire, Wis., by Ralph M. Burdick, formerly identified with the American Motor Co. The first machine to be turned out will be a six-cylinder car of 75 horsepower, to sell at $5,000, and to carry seven passengers.

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COURT HOLDS UP POPE DIVIDEND

Dispute as to Money for Unzicker Claims—Appeal of Disallowed Claims—Patent Licenses Permitted.

Vice-Chancellor Howell has reserved decision on an application by Sherrerd Depue, as counsel for the Pope Mfg. Co. receiver, to pay a second dividend of 25 per cent. to creditors whose claims have been approved. There was no opposition to the payment of a second dividend, but the proposed setting aside of an equal proportionate share to await the determination of what is known as the Unziker claim, which amounts to $262,000, was opposed by Mr. Depue, and on that account, the main question was held in abeyance. When the first 25 per cent. dividend was authorized the sum of $65,000 was ordered paid into court to be held pending a settlement of the Unziker claim, which had been disallowed, both by the New Jersey and the Connecticut receivers.

Gilbert Collins, of Jersey City, asked that this be done again, saying that funds had been transferred from the Connecticut jurisdiction to that jurisdiction expressly for that purpose.

It was disclosed that the receivers have available for the payment of a second dividend o total of $454,000, that sum being made up of a balance of $241,000, after the payment of the first dividend, $130,000 from the sale of Columbia Steel Co. stocks, and $300,000 received by transfer from the Connecticut jurisdiction. The payment of a 25 per cent. dividend will take up $380,000 while the setting aside of the same proportionate share for the Unziker claim will require $65.000 more, making a total of $445,000, thus leaving a balance of $9,000 in the hands of the receivers.

Mr. Depue argued that there was no necessity of tying up a further sum of $65,000, inasmuch as there was no question but that there would be sufficient assets available for the payment of the Unziker claim in the event of its being allowed. The Hartford plant, Mr. Depue said, was alone worth $..-500,000, to say nothing of the Hagerstown (Md.) and Westfield (Mass.) plants, while the remaining claims, after the payment of the proposed dividend, would aggregate only about $800,000.

Vice-Chancellor Howell signed an order limiting to 30 days the time in which claimants, whose claims have been disallowed by the receivers, may appeal. The claimants named in the order are: Beech & Sweet, Curtin Williams Auto Co., C. H. Childs & Co., Dodge Motor Vehicle Co., Fickling & Co., Quaker City Auto Co., Louisa A. Unziker and others, and B. F. Goodrich Co.

Another order, signed by the vice-chancellor, authorizes the receivers to execute a license agreement with the Associated Patents Co. relative to royalties for the use of clutches and brakes controlled by the National Brake and Clutch Co.

Apperson Prices are Changed.

Price changes are announced in the Apperson line of six models for the coming season. Sales Manager George H. Strout, of the Apperson Bros. Automobile Co., Kokomo, Ind., is at present on a business trip, and has already closed with old agents in three cities, including New York and Philadelphia, for greater quantities than ever before. After visiting Boston, Albany, Cleveland and other points, he will go to Colorado, "for a two-weeks loaf," and about the first of September wil start for a four weeks' trip on the Pacific coast.

The prices that he is announcing for the 1909 cars are as follows: Model O, a new car, 30 horsepower, equipped with double ignition, magneto and storage battery, and with a 3, 4 or 5-passenger body, optional, $2,450; model M, 35-40 horsepower, with 3 or 4-passenger body, optional, $3,000, and with a 5-passenger touring car body $3.350; Model I, 40-45 horsepower, 7-passenger body, $4,200; model K, 50-55 horsepower, 7-passenger body, $4,700; Jack Rabbit model, 2-passenger speed car, $5.000; and model S, 50-55 horsepower, 6-cylinder, 7 passengers, $5,500.

The model M, a recently developed shaft drive car, has proved to be quite the success that was expected, and this model, together with all the others except model O, is ready for immediate delivery. The model O will be ready about the middle of August. The new catalogue of the cars, showing all the models, will be issued early in September.

Franklin Tells Salesmen Its Plans.

Announcement that the H. H. Franklin Mfg. Co. intends making a special feature of taxicabs and commercial vehicles for the coming season was made at the third annual gathering of Franklin salesmen at the factory in Syracuse, which came to a close this week. The 1908 models were shown, and their good points explained by Designer John Wilkinson and Superintendent F. J. Haynes. A run to Glen Haven in the Franklin cars that competed in the Glidden tour was part of the social program, and the proceedings were presided over by President H. H. Franklin, G. H. Stilwell, and Designer Wilkinson.

To Choose Standard Quick Acting Rim.

Significant as the first official getting together of the Association of Licensed Automobile Manufacturers and the American Motor Car Manufacturers Association, a conference between representatives of both associations was held at No. 7 East Forty-second street, New York, on Monday of this week, looking to the adoption by their members, respectively, of a standard quick acting, quick detachable, demountable, or universal rim, which will be satisfactory to car and tire makers alike.

PREPARING FOR A BIG CAMPAIGN

Detroit's "All-Star" Combination Announces Its New Car—Acquires Northern Plants and License.

The opening gun of the selling campaign of the Everitt-Metzger-Flanders Co., of Detroit, has been fired in the issuance of a broadside of information concerning the car which the much hyphenated concern is putting out and a statement of the company's organization and resources, all of such a nature as to give assurance of the large place which it is bound to occupy in the field in the very near future.

By the acquisition of the two plants of the Northern Motor Car Co. in addition to the Wayne plant, the manufacturing facilities of the company have been expanded to a point where the expected 12,000 car production for the coming year is in the range of easy accomplishment. The Northern factory at Port Huron, Mich., is to be used chiefly for the making of parts and axles, while the cars in their final form will emerge from the former Wayne plant.

Agency arrangements for the new $1,200 four cylinder, five-passenger car, which is styled the E-M-F "30," are in the hands of William E. Metzger, the secretary and sales manager. As sales manager of the Cadillac Motor Car Co. from its start, Metzger has had an experience which very few men in the trade can begin to equal, and he is widely known throughout the length and breadth of the country.

The production end is correspondingly strong, being in charge of General Manager Walter E. Flanders, who is credited with a great share of the marvels wrought in production system at the Ford Motor Co., which concern he left a few months ago to join the new enterprise. Backing Flanders are Factory Manager Thomas Walburn and General Superintendent Max Wallering, while Chief Engineer William E. Kelly has been in the automobile business as a designer from its infancy.

The heavy duties of the general business management of the company devolve on Byron F. Everitt, the president, who as the organizer and moving spirit was responsible for the selection of an "all-star" caste. Supporting Everitt in the matter of financial resources are J. B. Book, Charles L. Palms, William T. Barbour, and Charles D. Bennett, these men with Everitt, Metzger and Flanders, forming the board of directors. The advertising and publicity is in the hands of E. Le Roy Pelletier, whose connection with the Ford Co. in the same capacity, established recognition of his ability.

The Selden license rights of the Northern Motor Car Co. will make the company a "licensed" concern, so that the cars will be available to "licensed" agents.

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FRANKLIN Automobiles

Franklin air-cooling proves up on the road. See what it did in the Glidden tour.

With all the climbing and hard pulling and low-gear work no Franklin ever had to stop to cool off. Nearly every water-cooled automobile had to. Some had to put in water every 20 miles. The Franklin towed bigger cars up one steep hill. The *Horseless Age* said the Franklin made better average time than some competitors with twice the horsepower. The only penalty against any Franklin was for broken springs. Our springs were not wound as others were; and two Franklins came through with perfect scores. The water-coolers declared they didn't believe the Franklin could do it.

No one who knows the facts ever asks honestly if Franklin air-cooling cools, and it makes the whole automobile simpler and stronger, more powerful in proportion to its weight, and more economical than is possible with a water-cooled motor.

The Franklin Model H Touring-car with its 42 horsepower and six cylinders weighs under 2,500 pounds. The majority of six-cylinder automobiles weigh from 3,500 to 4,000 pounds. Type H will average 14 miles on a gallon of gasoline, carrying seven passengers. And it will go 55 miles an hour if you want it to. Not catalogue speed; real speed.

Type H is the easiest riding and smoothest-working automobile in the world. You can't hear nor feel the engine. It is as handy and easy to manage as any little runabout. And there isn't a more durable automobile in existence.

The Franklin Type D five-passenger automobile weighs under 2,200 pounds. Other five-passenger automobiles average a third heavier. The Type G family touring-car weighs 1,600 pounds.

You have no plumbing system to lug nor bother with in a Franklin; no water to leak nor boil, nor freeze in winter. You can use a Franklin any minute in the year.

The Franklin concentric valve and dome-head cylinder get 25 per cent. more power out of the fuel. The Franklin auxiliary exhaust discharges 60 per cent. of the dead combustion-heat immediately after the explosion, without carrying it back through the cylinder.

These are the two most important inventions in automobile engineering. No automobile but a Franklin has anything like these features, nor any means of getting their results.

Franklins have always been air-cooled—for seven years. And 6,000 air-cooled Franklins are now in daily use.

An automoblie is as good as it does. Put any Franklin to this test.

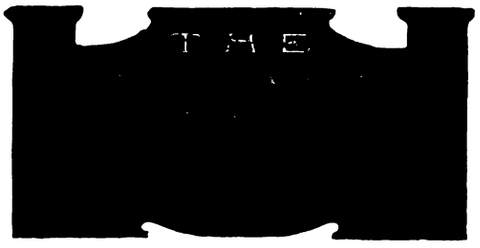
16 h. p. 4-cylinder Runabout $1,750	28 h. p. 4-cylinder Touring-car or Runabout...$2,850
16 h. p. 4-cylinder Touring-car.... 1,850	42 h. p. 6-cylinder Touring-car or Runabout... 4,000

Prices f. o. b. Syracuse.

Write for 1909 Catalogue.

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Unsatisfactory End of Glidden Tour.

It was a long, hard trip for the sake of a squabble at the end.

Whether there is any longer a good reason for running the Glidden tour until all perfect scores but one are marred or broken is still in doubt. The results this year almost make the judicious yearn for a tour in which every one might finish with a perfect score and barrels of honor.

Just as the affair draws to a close, an observer with more fidelity to the rules than to ethics of the occasion, quietly marks his little report card, adding some three minutes to his car's schedule without the driver knowing that he has done so. Oppressed with a sense of his official responsibilities he keeps his lips tight as the driver checks in on the regular schedule, which according to the observer's calculations is three minutes too soon. The result points to the fact that there is great luck in getting an observer who can be strict and impartial and yet exercise common sense and justice.

A protest was filed, urging that a penalty should be imposed against the car in accordance with the rules. A natural action, indeed, but how idle to appeal to the rules as rigid guides. There was but one rule in the lot that could be regarded as fixed and certain. Again let us dwell on it as a masterpiece of autocracy and latitude in sport:

"The Chairman of the Touring Board reserves the right to alter or amend, suspend, or repeal these rules from time to time, up to and including the end of the tour and final award, as may in his judgment be deemed expedient."

If the cause of justice was served in suspending the action of the other rules so far as the technical penalty of an otherwise perfect score team is concerned, so much the better, but a "beneficent despotism" which makes a contest like the Glidden tour simply a "blind run" with one man the Only Rule in the ultimate, should never be permitted to exist again.

Advantages of the Two-Cycle Motor.

It never ceases to be a source of wonder to one not a gas engine designer by profession that the introduction of the two-cycle type of motor has not been more extensive among automobile constructors. Its freedom from mechanical complication, the simplicity as well as the small number of its moving parts, its relatively low cost of construction are sterling recommendations which should weigh very heavily in its favor when the specifications of a new model are under consideration. With the alluring possibilities of multiple production, the problem of repairing the two-cycle motor becomes merely one of the substitution of parts—an operation which, save in the case of crank shaft bearings, requires practically no hard work or other fitting. Its low cost of upkeep therefore, should appeal very strongly to the purchaser.

Over against its advantages may be mentioned its reputed unreliability, due principally to the erratic performance of certain very small motors which have been carelessly produced for motor boat propulsion; its unresponsiveness to throttle control, and its relatively low fuel economy. Of the erroneous impression which a few unhappy experiments have caused to be applied in many instances to the entire class, it need only be mentioned that for every unsuccessful motor of this type there are many which are sufficiently sucessful to go thumping on, day after day, in the service of fishermen and other users of small utility craft under conditions which probably are much worse than those met with in automobile service. As a matter of fact, experience with the few makes of automobile motor in which the two-stroke cycle is employed, has fully justified its use. The apparent instability of the average motor of this class under conditions of varying load and throttle opening, is one which may be largely overcome by good design and a better understanding of the problem of carburation than has been current hitherto. As for fuel economy, its importance must be considered insignificant, except in motors of more than moderate power. For the purposes of the ordinary touring car, it is not of noteworthy magnitude.

In the paper on two-cycle design, printed elsewhere in this issue, the student of the gas engine may find considerable valuable data. The method of distributing the gases in the two and four stroke types is so radically different that it is small wonder the pioneers in this field should have had their full share of trouble in perfecting a motor having the desired flexibility. The chief difficulty arises in the proper proportioning and positioning of the ports. The slightest deviation from the proper location or the smallest fraction of a square inch variation in area from the standard may be responsible for tremendous differences in the operation of two motors built after the same designs and apparently duplicates in every respect. The general principles to be followed in laying out a motor of this class are clearly defined in this connection, and in unmistakable terms, free from the confusing methematics which usually enshrouds pure theory. For it is to be remembered that the facts set down result from the conclusions of actual practice rather than of untried ideas.

The fascination of the two-stroke motor —its simplicity—tends to the conclusion that it must be as simple to design and build as it is to assemble and operate. Herein lies a considerable error, and a probable explanation of the discouraging results which have been obtained by constructors who have not been eminently successful in this field. The fact is the two-stroke cycle motor is difficult to build with any degree of success, unless precautions are taken to have all parts made to closest gauge, and of the right materials. On this account the

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type is not to be regarded as cheap to build from the standpoint of first cost. Once the design is carried through properly, however, and the arrangements for accurate production on a large scale perfected, it would seem that the investment should prove an extraordinarily profitable one.

The Value of Motor Parkways.

With the completion of the first section of the Long Island Motor Parkway, the old enthusiasm at the notion of having a highway exclusively of and for motoring interests, struggles bravely to the fore again. The delights of possession which mere membership in the fraternity afford in this connection tend to crowd out soberer reflection as to the immensity of the undertaking, and the number of obstacles which must be overcome in bringing it to pass. The probable success of this, America's first motor highway, also is likely to stimulate the rehabilitation of several other schemes of a like nature which at one time or another have obtained a measure of public notice.

At the same time, it is well not to overestimate the probable value of such courses nor to speculate too freely on the possibility of a general extension of their use. For the purposes of international and national competitions, of experimental tests of various sorts, and of pleasure runs, such facilities are of very great importance, especially when brought within convenient reach of a great city. The exclusive motor highway is useful to this extent: that it removes from the common public roads such competitive events as might cause inconvenience and danger to the ordinary users of those thoroughfares; that it ensures the maintenance of a proper road surface, free from the desructive effects of the hoofs of animals; and that in the absence of uniformly good roads, it provides a limited area of nearly perfect footing for the machine. The common highway must still retain its own peculiar function in the community, however, and it is extremely doubtful whether any chain of special roads adapted to interurban travel on the horseless plan ever will be realized. In catering to the needs of a somewhat limited class it would even appear that the realization of this vision would be counter to the best interests of commercial prosperity. It would mean a cessation of the interest of the motoring contingent in the good roads movement, so far as affected by such enterprises.

England's great motordrome at Brooklands, though built as a race track rather than a parkway, is based upon the same idea as has been the moving course in the Long Island instance. The proposed courses in Germany and France, the latter of which just now is being freely agitated, also have a similar purpose. Probably the not distant future will see several other undertakings of the same nature, all on a large scale, and formed with the purpose of providing motorists with a suitable opportunity for the unrestricted pursuit of the pastime of fast driving. As commercial ventures, it is likely that they will repay the investor more or less in proportion to their proximity to great cities. Certainly, the appreciating realty values of such locations is destined to form a welcome security for the money sunk in them. The idea that such undertakings ever will be expanded into an independent highway system, however, is not a wholesome one to cherish.

Dealing with a Needless Offense.

It is to be observed that tardiness in coming into an appreciation of the common welfare of others, invariably results unpleasantly for the offender of the public In the case of the heedless motorist, oppressive legislation has more than once been threatened, and occasionally brought into effect. The flagrant abuse of the speeding capabilities of the automobile, however, is by no means the only disagreeable result of placing the machine in the hands of reckless and thoughtless persons. That the Park Commission of New York City is perfectly justified in ruling out of its precincts all motor cars which give forth offensive vapors is not to be denied. Such a measure, applied to the whole city has been threatened already, and avoided, largely, it is to be supposed, through the indolence or indifference of the aldermen. That it may follow this, however, unless owners and drivers are brought to a realization of the seriousness of the smoke nuisance, is a natural conclusion. That the companies operating vehicles for hire are alleged to be the worst offenders in this respect, should tend to quell the resentment of the private owner against what he otherwise might regard as an added invasion of his liberty. The smoke nuisance is a needless offense. Its suppression may be brought about either through a popular appreciation of this fact among users, or by more irksome means. It is to be hoped that this latest park ruling may serve as a timely warning and forestall the passage of more generally restrictive measures.

COMING EVENTS

August 1, New London, Conn.—Hill climbing contest on Town hill.

August 1, Wildwood, N. J.—Motor Club of Wildwood's annual mid-summer race meet on Central avenue boulevard.

Sept. 1, 2, 3, and 4, Chicago, Ill.—Chicago Motor Club's postponed 1,000-mile reliability run.

September 7, Lowell, Mass.—Lowell Automobile Club's 200 miles road race, on Merrimac Valley boulevard.

September 7, Columbus, Ohio—Columbus Motor Club's 24 hours endurance race at Columbus driving park track.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles outlaw race for foreign cars.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show in Madison Square Garden.

It would be interesting to follow out the reasoning which construes the act of warning people against possible arrest for violation of law as one calling for suppression by the police. Some "Good Samaritan," it appears, has been distributing cards at the St. George terminus of the Staten Island ferry warning automobilists to watch out for plain clothes men of the police force into whose hands they might fall through "letting her out" on the island streets and roads. When the fact became known the police were ordered to look after him. It does look as if the man who does anything to assist in obtaining respect for the laws is doing in his own way, and not in an illegal way either, exactly what the police are employed and paid for doing. To prevent law breaking is as desirable and as commendable as to make arrests and secure conviction when the law is broken. In England, where the question already has been thrashed out pretty thoroughly in establishing the status of the "scouts" regularly maintained for a similar purpose by one or another of the motoring organizations, it is interesting to observe that this view has been recognized by courts of law.

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PROGRESS ON MOTOR PARKWAY

Five-Mile Stretch of the Road Completed —Will Constitute Part of Course for Vanderbilt Cup Race.

While the Long Island Motor Parkway project has been kept very quiet since the day of the opening celebration last June—on which occasion General Manager A. R. Pardington, in the absence of President William K. Vanderbilt, Jr., turned the first spadeful of earth—the work of road building has been progressing rapidly and under favorable conditions.

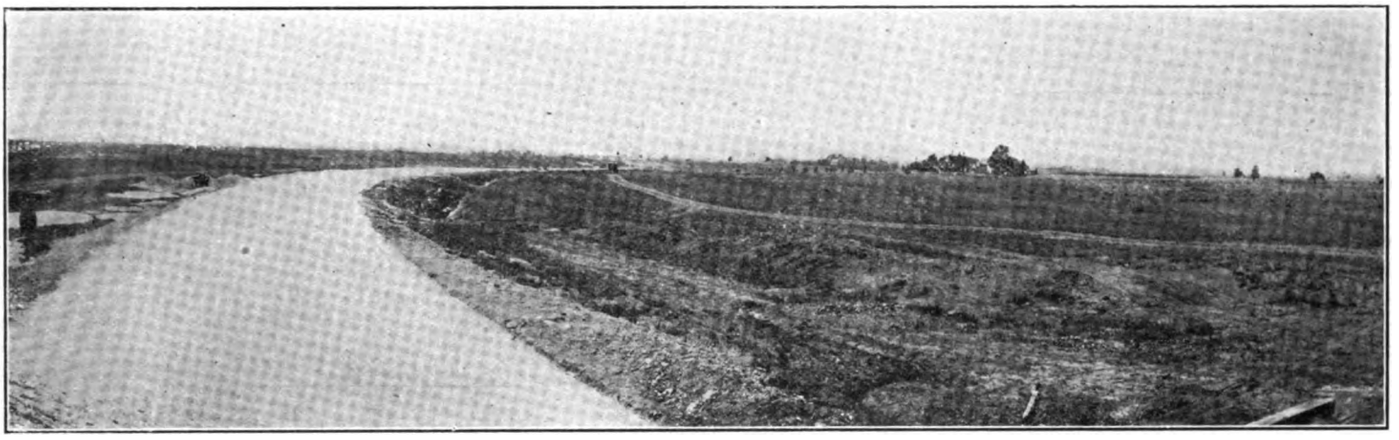
An enormous amount of work was encountered by the promoters of the enterprise, who found that before the actual road building could be commenced there was a mass of executive detail which must needs be taken care of.

A portion of the first section of the road has been completed—a stretch about five miles long, located south of the town of Hicksville. The completed portion is approximately one-half of the section, which in its entirety consists of that part of the Parkway running from a point directly north of Farmingdale to about one mile east of Garden City. It is this section of the road which has been included in the course selected for the Vanderbilt cup race of 1908; and as its length is about 11 miles it contributes slightly more than one-third of the entire cup course. While but a portion of the section is finished at this time, so much has been accomplished on the unfinished part that there is not the least question but that the terms of the contract, which call for the entire section to be finished by October 1st, will be fulfilled.

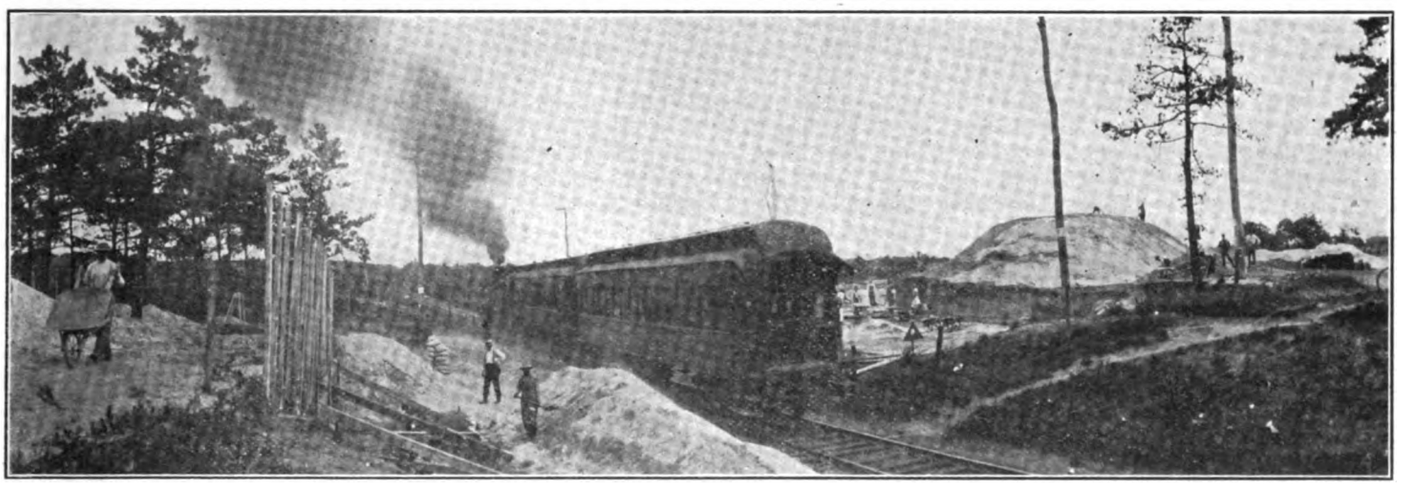
The accompanying illustrations show the completed roadway and give an idea of the immensity of the undertaking. Not only was it necessary to build a road through virgin country, but the construction of it, for its intended purpose, presented problems which had not previously been encountered, as no similar project had been attempted. Roughly speaking, the plan of the construction of the parkway is the same as is followed in railroad building; that is to say, sharp curves have been eliminated, grades, so far as it was possible, have been levelled, and when levelling could not be accomplished, slopes of a long, gradual degree have been arranged in preference to short, but severe hills. Of prime importance to motorists was the decision that the parkway should be free of grade crossings.

Obviously this constructive plan necessitated many "cuts" and "fills" and the material for the latter largely was supplied by the material taken from the former. To avoid grade crossings it was necessary to build bridges above the tracks. On either side of the railroad right of way cement foundations were erected to support these viaducts, the approaches to which were made gradual by filling in the land for a considerable distance. That these "fills" are considerable is demonstrated by the illustration which shows the distance between the railroad track and the knoll on the right. The intervening space will be filled in solidly, the roadway made on top of the "fill" which will be of a height sufficient to carry it a few feet above the top of a train.

With the opening of the first section comes renewed interest in the enterprise and with the opening is dispelled all doubts as to the future of the parkway.



VIEW SHOWING THE CHARACTER OF THE LONG ISLAND MOTOR PARKWAY



WHERE THE PARKWAY WILL BRIDGE THE RAILWAY

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VANDERBILT CUP RACE PLANS

October 24th the Probable Date, but not officially Announced — Elimination Contest Carded for October 10th.

Doubtless there will be a race for the Vanderbilt cup this year, and what is more to the point, it will likely take place on Long Island on the morning of October 24, although no official announcement to that effect has been made. It has been announced that the elimination race to decide the American team will occur on the morning of October 10th.

The news of the date of the Vanderbilt cup race came out this week only through the fact that A. R. Pardington, vice-president and general manager of the Long Island Motor Parkway, Inc., had applied to the Board of Supervisors of Nassau county for permission to use the roads of that county for the elimination race on October 10th, between the hours of 5 a. m. and 10 a. m., and for the race proper on October 24th, between the hours of 5 a. m. and 3 p. m. A public hearing will be given on the petition August 3d, at 10 a. m.

As no official announcement has yet been made by the American Automobile Association the Motor World sought to verify the news of the application for permission to close the roads on that date. When seen in his office Secretary Elliott would neither affirm nor deny the facts. That an official statement will be made by the American Automobile Association next week was all he would commit himself to say.

Later a statement was sent out through the publicity department of the association to the effect that another car has been formally entered in the Vanderbile cup race, making the third entry that has been received by the cup commission. The date of the elimination race was announced as October 10th.

The latest candidate for the American team is a special Chalmers-Detroit, 50 horsepower stock car, the entry being made by J. S. Harrington, of Worcester, through the Worcester Automobile Club. Oliver Light is named as the driver.

The other entrants who have deposited fees are Robert Graves, who enters a Mercedes in the race proper, and W. W. Burke, who has entered a Mora for the elimination. The Mercedes car will be driven by Lautenschlager, who won the Grand Prix recently. The driver of the Mora car has not been named.

The course for this year's Vanderbilt cup race, according to the application of Vice-President Pardington, will embrace the following circuit: Beginning at the Round Swamp road at or near the juncture with a road known as the Manetto Hill road to Plainview, thence on a straight road to Woodbury, and east along the Woodbury road to a point or juncture of the Woodbury road with the Jericho turnpike, over the Jericho turnpike west to Jericho village, thence south from Jericho village on the Massepequa-Oyster Bay road to its point of juncture with the Jericho turnpike, thence west over the Jericho turnpike to the old Westbury road, thence south to the Old Country road and easterly along the Old Country road to Merrick or Whale Neck avenue, thence along Merrick avenue to a point about 400 feet north of the Central Branch of the Long Island Railroad to the roadway of the Long Island Motor parkway. About ten miles of the parkway is to be used and the official grandstand will be located on this stretch.

Sioux City Sees Good Racing.

Barney Oldfield and Charles Soules were the attraction at the meet held by the Sioux City (Ia.) Automobile Club at that city on July 18th, but although the track was in good shape no records were at any time in danger. Soules is now Oldfield's racing partner and the pair were able to make a good race in their three miles match. Soules got the pole at the start and maintained a lead of a length until the mile where Oldfield gradually closed up the gap and won out in a grandstand finish by a half length.

In their mile record trials Oldfield covered the lap in 1:04⅕, and Soules was timed in 1:07⅖. James Graves, an 18-year-old lad, hailing from Wayne, Neb., won more plaudits than did the professionals. He won the 25 miles for fully equipped touring cars, the three-miles free-for-all and the novelty. The two runabout events went to Walter Gnehm and Eugene Gnehm.

Wildwood's Midsummer Racing Program

Saturday next, August 1st, will be the date of the annual midsummer race meet conducted by the Motor Club of Wildwood, on the level Central avenue boulevard, that city. Ten events have been carded, as follows: Gasolene cars selling under $1,250, six cylinder cars, free-for-all, gasolene cars between $3,001 and $4,000, four cylinder gasolene cars over $4,000; free-for-all kilometre time trials; steam cars only; mile time trials, free-for-all; stock touring cars carrying four passengers.

New London Cards a Hill Climb.

New London, Conn., intends to place itself on the automobile map by holding a hill climbing contest in that city on Saturday afternoon next, August 1st. The events will be held on Town hill. Five events are on the card, as follows, according to price classification: Under $1,000, under $2,000, under $3,000, under $4,000, and a free-for all.

The Selma Automobile Club has been organized in Selma, Ala., with the following officers: President, Huston Armstrong; vice-president, G. S. Armstrong; secretary, James Kenan; treasurer, H. A. Denton.

GERMANY CLAIMS THE "RACE"

Protos Car, First to Arrive at Paris, Protests Its Handicap—The Thomas Delayed on Final Stage.

The railway-steamship-and-otherwise aided German Protos car, having arrived in Paris ahead of the other competitors in the New York to Paris "race," the Zeitung am Mittag, the Berlin newspaper which backed that car, has promptly claimed the race as being won, protesting against the allowance of 30 days to the American Thomas car as "an impossible sporting procedure." The German car arrived at the French capital at 6:15 p. m., Sunday, 26th inst. Thus it wins the trophy offered by Grand Duke Vladimir, of Russia, to the car first completing the big journey. Lieutenant Koeppen, the driver of the car, was lionized upon his arrival, and none were more hearty in their congratulations than the American residents. The Protos car completed its trip on the 166th day after the start from New York. On that day the American car reached Koenigsburg, 1,051 miles from Paris, at 9.40 a. m. The Italian Zust car had not been reported since four days previous, when it was at Tomsk, Siberia, 5,340 miles from Paris. The Italian car has an allowance of 15 days against the Protos.

It is not expected that the Thomas car will arrive in Paris until this (Thursday) evening. The American car has been beset by ill fortune during the later period of its running, and Schuster and Miller were again the victims of disappointment yesterday when a coupling-shaft gave out 12 miles from Hanover, which city they left at 3 a. m., expecting to arrive at the French capital by evening. For 16 hours they worked under a wayside apple tree and it was 8 o'clock in the evening before they had completed the repair.

Even at the early hour when the Americans set out from Hanover, they were piloted out of that city by a car that had come all the way from Dortmund to show them the way. There were several ladies in the pilot car, and they appeared delighted by their experience. They set a stiff pace, and almost brought the Americans to grief. The fog still hung low, and a number of farm wagons were met on their way to market, with the drivers asleep in their seats, paying no attention to the course of their teams. It was only by good luck that several collisions were narrowly averted.

Desiring to have women automobilists take an interest in club life the Minneapolis Automobile Club has altered their constitution so that the fair sex may join. The $25 initiation fee will be waived when the applicant is a woman.

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GLIDDEN'S CUP IS RETURNED

Pierce Refuses It Because of Dispute—Clifton's Pierce Wins Hower Trophy—Gleanings of the Tour.

Somehow the Glidden tour did not end nicely at all. There was not the hilarity to its conclusion that has marked similar events in the past, and a row over whether one or three teams in close contest for the trophy should or should not be penalized brought the thing to an unsatisfactory conclusion. As matters stand now, the Glidden Trophy is in the hands of the touring board of the A. A. A., because the George N. Pierce Co. would not accept it under circumstances in which their right to it might be under the shadow of a doubt.

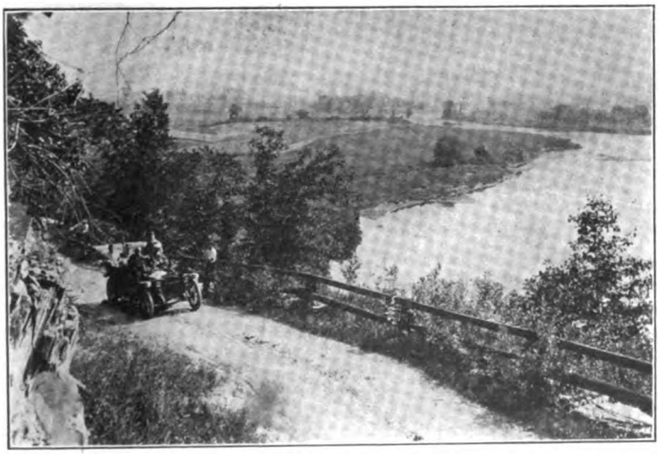
The competing cars arrived in Saratoga, N. Y., early on last Thursday afternoon, and it was thought that the Buffalo team, consisting of three Pierce Great Arrow cars, the Columbus team, consisting of three Peerless cars, and the Chicago team, composed of two Haynes cars and an Olds, were in a three-cornered tie for the trophy. However, the driver of the Olds in the Chicago team, Andrew Auble, had some days before announced his intention of quitting at Saratoga, whether his car was in the tie or not, so that it looked like a run-off between the Pierce and the Peerless teams.

Nevertheless, before evening it was discovered that the observer on J. W. Maguire's Pierce car, of the Buffalo team, had by his record card made the car appear guilty of having come in three minutes before it should. Allowing the two minutes leeway permitted by the rules, the car would thus be one minute off its proper schedule, which would impose a penalty of one point against the car and one-third of a point against the team to which it belonged. Despite the observer's report the car and team were given perfect scores.

At the evening meeting of the contestants, Charles Burman, representing the Peerless team, filed a protest with Chairman Hower to the effect that in accordance with the observer's report and the published rules concerning penalizations for checking in ahead of time, the Pierce team should be penalized. The matter was gone into with detail and it transpired that the observer's action in adding three minutes to the running time of the Pierce was due to the fact that the car stopped for a brief halt on the way into Saratoga to take off the tire chains. Since the rules provided that all time spent working on tires, with the engine running and no other repairs being made, should be added to the running time allowed, the observer added the time spent in removing the chains, making a record to that effect on his card. Maguire, on the other hand, had not thought of it as being work on the tires themselves and it did not occur to him that the observer had made any additions to his running time. The observer vouchsafing no information or comment as Maguire drove confidently in on his regular schedule, the car arrived at the checking station three minutes before the time that the observer's calculations would have



SARATOGA'S WELCOME AT TERMINATION OF THE TOUR



ALONG THE WINDINGS OF WHITE RIVER, VERMONT



VIEW BETWEEN RANGELEY LAKES AND POLAND SPRINGS

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set as correct. When Maguire was called upon to sign the observer's record he protested that it was wrong, and that the time consumed in taking off the chains had not even been as much as three minutes.

The facts influenced giving the Pierce team a perfect score, and, when the Peerless protest was presented to Chairman Hower he turned it over to the "committee," composed of Buffalo men, for decision in secret conference. He did not wish to shoulder alone the responsibility for overruling the Peerless protest, and it was left to his "committee" to turn it down on the ground that the observer made a mistake.



JUST GETTING ACQUAINTED.

Feeling being rather high, the Peerless people declared that if the rules as set down were to be administered with so much leniency on certain occasions and to be enforced with rigidity in others, their cars would not compete in a run-off for the cup, and their withdrawal was announced. Henry May, vice-president of the George N. Pierce Co., being in Saratoga at the close of the run, and hearing of the disallowed protest of the Peerless team, directed the Great Arrow team to drive to the starting line the next day and then to refuse to cross the line if the Peerless team did not appear for the run-off.

The latter had not weakened in their position over night and did not show up, whereupon May wrote Chairman Hower, stating that inasmuch as no competitors had appeared for the run-off, he had ordered his team not to cross the starting line, as it was not the wish of the Pierce company to win the trophy on a fluke. This sportsmanlike action was the subject of very general approval and quite offset such doubts as had been cast on the Pierce honors because of the technical misunderstanding on time calculations. Its practical effect was to leave all three teams tied, according to the official records.

Whatever honors the Pierce cars may have relinquished in the Glidden contest were compensated for in the Hower competition. Five cars in the Hower class finished at Saratoga with perfect scores, including two Pierce Arrows, two Stoddard-Daytons and a Premier. It took four more days of road work to find the two Pierce cars left alone in the running. The run-off was from Saratoga to Syracuse, to Buffalo, to Cambridge Springs, to Pittsburg, all on a very fast schedule. The trip from Cambridge Springs to Pittsburg ditched the Premier, while the two Stoddard-Daytons were withdrawn at Pittsburg in the evening. Next day Clifton's Pierce, by consent, ran alone to Bedford Springs, thus winning the trophy.



OVERLAND, WITH PERFECT SCORE, HALTS TO HELP

Of the cars in the Glidden competition to finish at Saratoga with perfect individual scores, there were fourteen in addition to those on the three teams in the tie. These included the two Stevens-Duryeas, which were running for certificates only, and two Franklins, two Studebakers, and one each Premier, Thomas, Gaeth, Rainier, Oakland, Marmon, Garford and Reo, making in all a total of 23, of the 32 Glidden class cars, and 5 of the 14 Hower class, that made the whole 1,700 miles without a penalty.

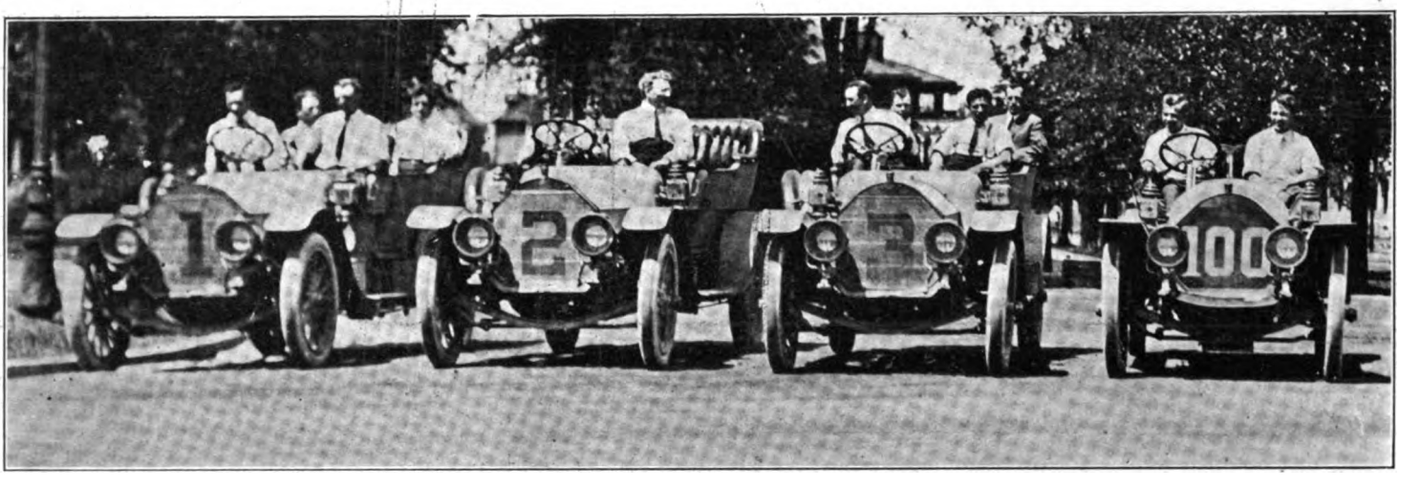
Gleanings from the Glidden Tour.

There are those persons who like motoring to such a fanatical degree that naught satisfies them until they can go off on a grand two weeks of more or less hardship—climb half a dozen ranges of picturesque though rough mountains, spend a lot of money, break a few bones, shake loose a few ribs which subsequently lodge in their livers, and likewise jar out all the fillings in their teeth, which are swallowed even as pills, while bumping over a long and progressive series of water-breakers. There are those persons who do such things because they are paid for it and would lose their positions if they declined, namely the drivers and mechanicians. Then there are those who go as war correspondents, partly for the joy there is in it and withal using their paper as an excuse and means of defraying expenses, in order that said paper may get the latest and best war news of the great tour, fresh from the front.

I was one of the latter—right there on the firing line with the other thirty-odd high tension news artists who wore dainty blue badges with pretty fobs labelled "Press." We were the busiest passengers on the tour, too, for we had to work at the end of the day and scrap to get our stuff over hot wires while the rest of the crowd sought readjustment of their systems in slumber. And let no one deem it a simple matter to separate fact and fancy and flash the "news" to a listless world when your bones are bent with much jostling and your dusty eyes cry for sleep.

The Hower Tour set out from Buffalo, N. Y., on July 9th, to demonstrate that Hower's Pierce team could lick any other team—or so the early kickers had it—for was not Frank B. Hower riding right at

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PIERCE TEAM AND RUNABOUT WHICH MADE PERFECT SCORES

the head of the procession in a car of that make, closely followed by five other cars of the same make?

Clubs? That's so. The fifth annual reliability and endurance contest of the American Automobile Association, for the Glidden trophy was to have been a club affair. For the "club" part of the affair it was more or less a farce. There were three Pierce cars forming a team, running under the emblem of the Buffalo Automobile Club; there were three Peerless entries representing the hitherto unknown Columbus Automobile Club; there were three Marmons flying the Bay State A. C. streamers; three Studebakers said they were the Rochester A. C., and a trio of Garfords constituted Cleveland's representation. In other words, automobile clubs had about nothing to do with the whole affair, and the contest was wholly a manufacturers' tour. Fancy Mrs. Cuneo, she who is a class by herself, a resident of Richmond Hill, L. I., driving as one of the Chicago Club—a club in which she was never interested to any extent. Think of the honor for this club to have Mrs. Cuneo on its team. If the three A.'s annual contest is to be an out-and out manufacturers' event, why run teams under the guise of "clubs," borrowing the names of legitimately organized or other automobile organizations?



MRS. JOAN CUNEO, RAINIER.

The writer rode in that car known as the Moline roadster, driven by that prince, Neil Vandervoort. This was the only car in the run which did not burn gasolene. Instead, it burned "gaso-moline." The latter remarkable substance was used both as a fuel and lubricant, answering equally well for each purpose. Some said that it was also put into the grease cups, but this was not so. In this car, I had a highly adventuresome trip, notably on one occasion, when at Blairsville, Pa., a stuffed effigy of a man was suddenly hurled in front of the machine. The dummy struck the front of the car and hung on the springs. The crowd laughed and considered it a great joke. They asked for their baby back, but Vandervoort refused to give it up, fearing that they might repeat the trick and cause an accident. So we carried the dead man up into the mountains and threw it away.

Perhaps our most surprising adventure though, occurred up in Maine, during the latter part of the trip, at Mexico, 50 miles



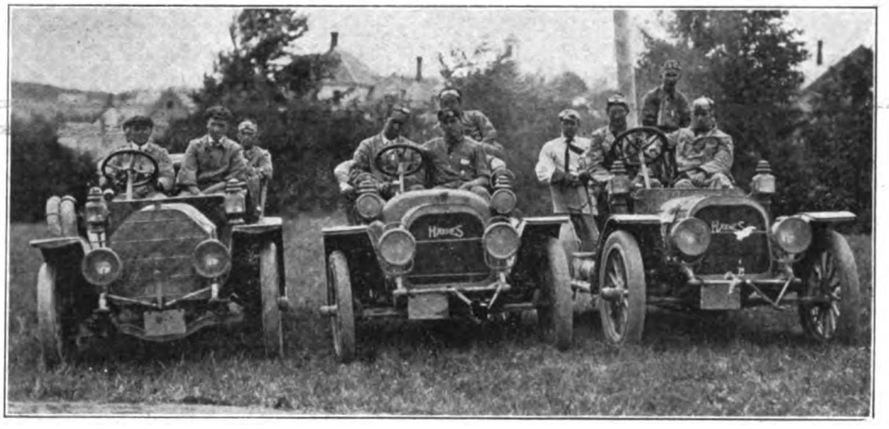
PERFECT SCORE STUDEBAKER, NO. 24



PERFECT SCORE GARFORD, NO. 30

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from Rangeley. A porcupine—a Mexican porcupine, of course, darted out from the pine woods with his quills standing on end and we ran over the cute little fellow. When we stopped, we found that his spicules had punctured a right front shoe and made it go flat. Think of that! Nevertheless, Neil Vandervoort made the gamiest run of the whole contest, making up two days' lost time between Harrisburg and Boston, and running from there on, under schedule. Meanwhile, his eye was in very bad condition, requiring Dr. Hoag's attention.



PERFECT SCORE CHICAGO TEAM TWO HAYNES CARS AND AN OLDSMOBILE

The first thing on the Hower tour that really "got the tourists' goat, was that range of Allegheny mountains and their neighbors, the Blue Ridge, Scrub and Laurel. We crossed them last year on the tour and this season they seemed even worse than before. Those same old waterbreaks were there, more ghastly that ever—thousands of 'em, as we counted—and they made us feel like pulp long before the summits of those tough mountains were crossed. And yet, the cars stood the siege far better than last year and tire trouble was not nearly so plentiful. We tourists felt the effects of the bumping though, and the constant jouncing and vibration was no joke. Why, did not Mrs. Berwick, who rode with Mrs. Cuneo, pick some milkweeds at the foot of the Scrub Range mountains and were they not churned to buttercups by the time those hills were surmounted?

Of course the tour was not all hardship and bumps—not by a long sight. There was plenty of fun, fast and furious. Some of us who rode in non-contesting cars would stop at intervals and kid the girls along the route. At the different night stops we often found plenty else to amuse us. Harrisburg and Philadelphia tendered us smokers and when we reached Boston, the Bay State Club treated us royally. On Saturday we were given a clambake at Paragon Park, and we had great doings. When the banquet was over and the speeches by the mayor and others finished, we went out and paraded around lock-step for a while, wearing ten-cent "Merry Widow" hats. Then we started in to see the shows systematically. Half a hundred of the more foolish ones half killed themselves on the "human roulette wheel," which is nearly as bad as crossing the Allegheny mountains, or partook of that form of amusement known as "bumping the bumps, which vividly recalled the experiences of a few days before. Ultimately we adjourned to a "high class" vaudeville show. The seats of the front row, which were nailed down about eight feet from the stage (to allow some room for an orchestra, perhaps), were not close enough to the footlights to suit the eager tourists. Therefore we pulled up said rows of seats by the roots and shoved them forward until all got a better view. It must have taken the proprietor two days to straighten them back into place again.



LORING WAGNER, HAYNES, WITH JAPANESE COUNT AS PASSENGER

Sunday at Boston, Mayor Hibbard turned over one of the municipal steamers to take us down the bay for a fine sail, shipping plenty of both kinds of refreshments along with us. The boat, by the way, was a little jest in itself, for it proved to be the Monitor, which is used to transport the local prisoners to their "hotels." For awhile we busied ourselves trying to lock each other into the little compartments used as cells.

Milton Lusk, at the keyboard of the Gabriel horn-organ car, provided endless amusement, for he played almost every tune we had ever heard and many that we had not. At each place we would stop for the night, a crowd would pile into the car and tear around singing Glidden tour songs to his accompaniment. Some of those classics which we yelled with lusty lungs were wild indeed, such as "Tour Days," to the air of "School Days"; also that one to the tune of "The Garden of Love," beginning "Won't someone kindly tell me, won't Hower answer why——"; or another, "Listen here, Hower dear, I'm afraid to check in after dark."

At Milford, Pa., there was no end of kicking about hotel accommodations. Many of us went up to our rooms to retire that night and found our beds already occupied by others—about three to a bed. At this place they gave us most any old thing to eat—old shoes fried, stewed blankets, blanc mange made from rubber tires, and things.

It was when we departed from this spot that one of the most novel ideas of the whole tour sprang up. A publicity man and a playwright, got their heads together with a few of their comrades and painted pretty signs to post on trees along the route. Such inscriptions as: "Hurlburt spare this tree!" "I assume you are all present" (Hower's favorite phrase when addressing a meeting), "Ain't it awful, Mabel?" and a few more.

One of the most ludicrous was posted on a tumble-down dirty little hovel, inhabited by Italian laborers, and read: "A bath with every room." This appealed to some of us who had experienced the no-bath inconvenience, notably at the Avondale, where some of us were lodged in Bedford Springs—a hostelry which possessed no bathroom!

The observers were a quaint set. "Shock observers," they were called, and what some of them did not know about cars, was well worth knowing. At the start the observer appointed by Mrs. Cuneo turned out

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to be a young newspaper man who had never ridden in a car. When he was assigned to A. L. Kull's Gyroscope, the driver had all sorts of fun with him. This car was known as "Kull's Giraffescope—eats leaves off trees," and when the machine would stop, either to chew foliage or on account of tire trouble, the observer never knew whether or not the engine was going—an important detail, as extra time was allowed for tire changing, while an engine was kept in motion.

"Is that motor running now?" the observer would blandly inquire. And Kull would reply: "Why feel the radiator; it's hot!" If the radiator was hot, the observist took it for granted that the engine was running. It was most interesting to hear this young chap naively relate all this and tell how Kull used "magic powder" to make his auto go. When the friction drive would get stopped with oil, so that the fly wheel and transmission wheel would slip, the driver would take a handful of "magic powder" from the middle of the road and throw it between the friction wheels. As a result, the machine would jump more like a kangaroo than a giraffe, and sometimes even stall the motor.

The observer who attracted the most attention was Kenneth R. Otis, who weighed 325 pounds. He was a handicap to any car that carried him and he knew it and did not care either. It was while transporting him across the White mountains that one of the Marmon cars crushed a wheel.

One of the Haynes cars carried a young Japanese, Mr. T. Ninagawa, who for publicity purposes was said to be a count, sent here by the Mikado to study motor car manufacture. This, however, he personally denied. I asked Ninagawa, who speaks very good English, to write on paper what he thought of the tour. What he quaintly wrote is printed here, as he penned it, merely to give his own views in his own characteristic fashion, and in no sense of ridicule.

"Perhaps one of the most serious and reliability testing cars is the Glidden Tour. I have been studying the automobile trade last three years and I feel I want to take like this reliability touring contest. So I am glad that I could get a seat in the Haynes, which is one of the best make.

"The car which takes the reliability contest proves it quality, even if it run only one day. I mean that a car which contests in the Tour only one day is better testing in the round city or town a week or fortnight.

"I am very surprised that American roads is most nearly perfect in condition. Anyway, I believe that American made is further more better than high priced European made.—T. Ninagawa."

Scenically, the tour this year was far and away ahead of that of 1907. A more varied panorama of beautiful country could not have been arranged. For this, the "Pathfinders," L. M. Bradley, Lai Lewis and others, acting under Mr. Hower's instructions, are to be thanked, in this respect, mountains in Pennsylvania, the Berkshires, White and Green mountains, and rivers of New England, the gorgeous blue lakes of Maine, were all that could be asked for in the way of superb landscapes. Most of us on the tour were normal persons, with sane ideas and opinions, but those mountains near Rangeley and in Vermont made us come very near raving over their beauty.

At Rangeley, by the way, we found considerable fun in a very serious melodramatic piece at the local opera house. It was entitled "The Convict's Daughter," and played on a stage that would have fitted into a hall room. We grew so enraged at the horrid villain that we nearly wrecked the show during the first act. His "dirty work" was more than we could stand. We livened up draggy parts of the play by interpolating dashy Glidden tour songs until some part of the second act, when we marched out, much to the relief of the natives, the company and the villain.

"THE MILLION DOLLAR KID."



RAPID TRUCK SERVING AS "BAGGAGE TRAIN"

Point Breeze Squabble Settled.

All is harmony now between the Quaker City Motor Club, the Norristown Automobile Club and the American Automobile Association, following an explanation by Secretary Edwin S. Nyce, of the Norristown club. The squabble arose when the Quaker City Motor Club learned that the racing board of the governing body had granted a sanction to the Norristown club for a meet that was to have been held at the Point Breeze track, Philadelphia, last Saturday, 25th inst. The Philadelphia club considered the invasion of the Norristown club rather presumptious and complained to the American Automobile Association, whereupon the sanction was rescinded. Secretary Nyce explains the Norristown club's position in the matter by saying that for a slight service rendered to his club by I. C. Minford, a Norristown promoter, some time ago, he agreed to procure a sanction for Minford's proposed meet at Point Breeze. According to Minford the enterprise was purely a private one for which only he and a friend were responsible. He says that all the moneys received from the sale of tickets, as well as all the entrance fees have been returned, and the only losers are himself and his associate, who had purchased a number of trophies and incurred considerable other expense incidental to the meet. As the American Automobile Association has since appointed a special committee to examine into applications for sanctions, it is thought that future mixups of the sort may be avoided.

Good Tire Record on Glidden Tour.

Reports compiled by observers and given out by the Diamond Rubber Co. show an average tire cost per car of $46.91 for all cars in the Glidden tour, contestants and non-contestants. The average cost for Diamond tires alone was $16.88, considerably better than the average for the whole tour. The average cost per car for tires excluding Diamond equipment, according to the same authority, was $64.94. The basis of cost is taken with size 34x4 representing the general average of tire sizes used. All items, even punctures, etc., capable of ready repair, are taken into the account, but the big feature of the tire cost was the blowing out of casings and tubes. Of 61 blown-out tires all told, the number of Diamond tires so damaged was five, with 21 contesting and non-contesting cars using the Diamond make. Of the 22 contesting cars with perfect scores at the end of the tour, nine were equipped with Diamond tires. Two cars changed to Diamond equipment en route.

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DECLARES CITY LAW PARAMOUNT

Illinois Court Holds that Local Automobile Regulations Supersede State Law—Hits at Class Legislation.

Automobilists of Illinois are interested in the decision handed down last week by Circuit Judge Craig, who holds that local ordinances take precedence over State laws. The decision was rendered in the case of A. G. Woodbury against Dr. J. Addison Brown, of Champaign.

In arguing on a demurrer, counsel for the defense held that automobiles were entitled to go at a speed of 15 miles an hour, as that is the limit placed upon them by a law recently enacted by the Illinois general assembly.

The court held that the ordinances of the city of Danville which regulates the speed of vehicles on the streets should govern in all cases; that the legislature has no right to legislate for cities in that regard, and that the State law referred to should be disregarded.

It was held that in picking out automobiles from a score or more forms of vehicles and attempt to regulate their speed was a form of class legislation.

Jersey Justice for Joy Riding Chauffeur.

Having twice failed to appear before the Commissioner of Motor Vehicles of New Jersey after he had properly been summoned, Fred C. Tysen has lost his chauffeur's license, which has been revoked by Commissioner Smith. The reason for the revocation of the license lies in the alleged act of Tysen who, it is said, on May 25th last took his employer's automobile without permission, and, accompanied by some friends made a tour of Bergen county. During the trip the automobile collided with two peddlers' wagons; the accidents were investigated by the motor vehicle inspector of the district who forwarded a report of the matter to Commissioner Smith. Tysen was given two opportunities to present his defense, but when he failed to appear his license was revoked. He now will be subject to arrest if he attempts to drive a motor vehicle in New Jersey.

Pennsylvanians Plan a New Highway.

An improved highway across the State of Pennsylvania, from north to south and following the general course of the Susquehanna River, is the aim of a movement into which the automobilists of Wilkes-Barre have entered with spirit. It is the result of a proposal emanating from J. W. Hunter, State Highway commissioner of Pennsylvania, who suggests that the 67 counties of the Keystone State be connected by State roads. The Wilkes-Barre enthusiasts want a stretch of improved highway from Binghamton, N. Y., to Baltimore and declare this is by no means so much of an undertaking as may seem at first thought, as many stretches between the two cities already are in first class condition. They propose that the road shall go through Montrose, Tunkhannock—with a spur to Scranton—Wilkes-Barre, Bloomsburg, Danville, Northumberland, Duncannon, Harrisburg and York, meeting the proposed east and west Pennsylvania State trunk road at York.

Political Defeat Charged to Motor Car.

Charging his defeat to the unreliable running of the motor cars which were employed in connection with his election campaign, M. Jean Camper, who contested the Aisne Department against M. Doumer at the last general election for the Chamber of Deputies, sought and obtained damages from the company from whom the cars were hired. The bill for car rental for the eight days service was 600 francs, or about $120. In addition to this the outlay for repairs was included in the penalty imposed by the courts, and the sum of 200 francs, or $40, as balm to his personal feelings.

Novel Claim for Nullification of Sale.

Basing his action on the very novel claim that the engine is too powerful for the car, in consequence of which the frame failed to retain its shape, a citizen of Omaha, Neb., has brought suit against the maker of his car for $3,515, the amount paid for it last March. He claims that the car was sold to him on the representation that it was as good as certain other specified standard makes. Questioning the accuracy of the assertion he now wants to return the car, and seeks to compel the manufacturer to accept it and refund the purchase price.

Automobile Mail Service for Tinley Park.

Again have automobiles received official recognition from the United States government. This latest instance of progressiveness is apparent in the new arrangement made by the post office department for the use of motor cars to carry the mail from the Tinley Park post office in Illinois. Under the new order the three carriers of the rural mail have been supplied with cars and now cover their respective routes in a much shorter time than they did when horse-drawn vehicles were employed for the purpose.

Speed Limit Suspended for Taft.

"Casey, the Cop," whose swift motorcycle has enabled him to catch many speeding automobilists in New York, personally superintended a suspension of Manhattan's speed regulations, recently, in order that candidate Taft could cross the city quickly on his way to the President's home at Oyster Bay. The car, a White steamer, went across town in a whirl, and after crossing the East River ferry, gave Taft the speed he so much enjoys.

WOES OF THE FAMILY CHAUFFEUR

His Many Duties and Long Day of Labor—May Possibly Get Needed Sleep in the Winter.

When a chauffeur works for a whole family instead of for one person, he is not infrequently the victim of very long hours. The women of the household find uses for the car almost immediately after breakfast, for shopping, marketing, visiting the dressmaker, and other morning errands, while after lunch the car is kept equally busy in the round of afternoon social and pleasure trips. Sandwiched in between the periods when the women of the family are using the machine, come the calls to take the head of the household to and from his place of business or the club. In the evening the demands of conveyance to the theater, dances, concerts or receptions keep the chauffeur on duty until almost midnight, after which he is still subject to the call of his employer for nocturnal excursions that may last until 4 or 5 o'clock in the morning.

In some cases the chauffeur finds that the sequence of calls on his driving from after breakfast until dawn the next morning is not mere occasional happening, but a more or less regular thing. It is but natural that in such situations he should do a little grumbling to outsiders occasionally, relating his troubles.

"When does your chauffeur get a chance to sleep?" asked the friend of a man whose car is in commission about 20 hours out of the 24.

"Sleep?—sleep?" repeated the chauffeur's employer. "Why he gets all winter to sleep, don't he." And he turned to other matters in a way to indicate that there was nothing more to be said.

Running Expenses of Ramblers.

In the Maintenance Number" of the Rambler Magazine are given statistics of the running expenses of about 200 Rambler owners, nearly all of whom are now driving their second, third, fourth or fifth Ramblers. The figures, which represent running expenses in 43 different States in the Union, are averaged to show a distance per car of 12,254 miles. Interspersed through the pages are letters from various owners stating their experiences in the matter of costs and giving numerous experiences which are of uniform interest. These include sundry rather novel commercial applications, sometimes of cars intended primarily for pleasure purposes.

Good Roads Lesson for Farmers.

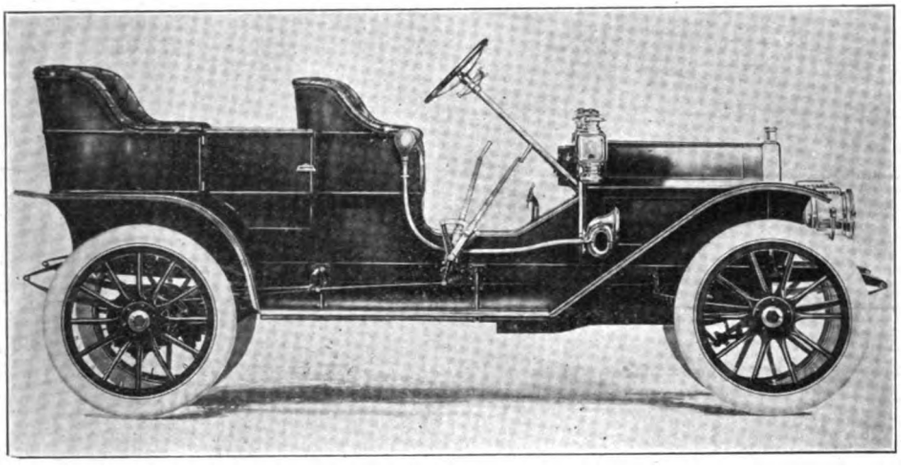
In Colbert county, Alabama, at a recent assemblage of farmers, $12,000 was raised by the tillers of the soil with which to build an "object lesson" road, turning the whole matter over to a government expert.

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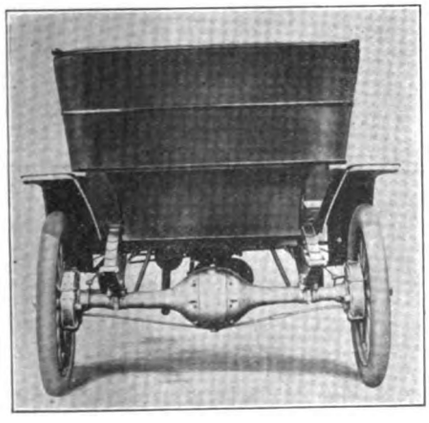
INNOVATIONS IN E-M-F MODEL

Characteristics of the Latest New Comer in the Automobile World—Details of Construction and Equipment.

Wholly aside from the interest stimulated by the announcements of the formation of the Everitt-Metzger-Flanders Co., Detroit's huge new concern, the E-M-F "30, details of which have just been disclosed, proves to be a marvelously complete study in design, and a most promising innovation to the five-passenger class of car. That such a car can be produced at the modest figure of $1,200, speaks volumes for the capability of the modern production engineer, as it does for the faith of the men who are his sponsers. In brief, it is a car built from designs that fail to reveal the marks of economy which its low selling price would seem to indicate, but which so far as they exist are not of a character to obtrude themselves upon the attention.



THE NEW E-M-F THIRTY—SIDE VIEW

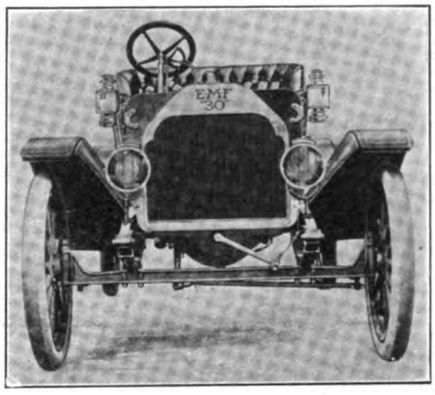


BACK OF E-M-F THIRTY

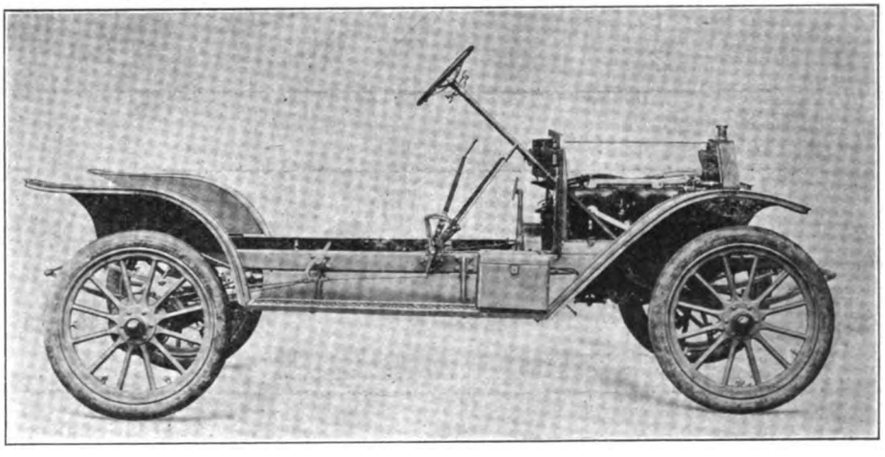
The general appearance of the machine, as may be gathered from the illustrations, is neat and sufficiently conventional, without being in the least suggestive of the unusual element concealed in its makeup. The touring body here shown, is but one of four types which are to be produced. The others are respectively, a runabout of standard form, a roadster, with single or double rumble, according to the taste and requirements of the purchaser, and a "demi-tonneau," which is heralded as "an E-M-F innovation,"—one of several, it should be mentioned in passing—which is a 4-passenger car of original form, having a detachable tonneau, which when removed, leaves room for trunks or other luggage or touring impedimenta. The raking steering column, long, sweeping fenders, enclosing the sides, seating arrangements and general mounting of the externals, are such as current usage has approved. The standard equipment, it should be added, includes side oil lamp, lamp, tube, horn, tire kit and tools, and the magneto.

The wheel base is 106 inches, tread standard, the weight of the touring car complete, 1,800 pounds. The wheels are 32 inches diameter, shod with 3½-inch tires all around. The brakes act on the rear hubs, are of the external-internal type, and are designed in such a way that the motion of the car after they have been applied tends to increase their pressure. The service brakes, being on the outside, are readily adjustable. The suspension comprises semi-elliptical front springs, and full elliptic, rear. All driving thrusts, traction and braking strains are taken by radius rods. The frame, which is of pressed steel is unusual in that it is of U section rather than the more familiar I-beam or channel type, and that it has perfectly straight side members, no offsets or bends being employed.

The mechanism of control is of the usual type, barring one important detail. That is to say, the motor control levers, instead of being placed on the top of the steering wheel, are located beneath it, and on the left side. The arrangement is such that they can be actuated by the fingers of the left hand without removing them from the wheel. The right hand thus is left free at all times for the manipulation of the brake and gear shifting levers.



FRONT VIEW, E-M-F THIRTY



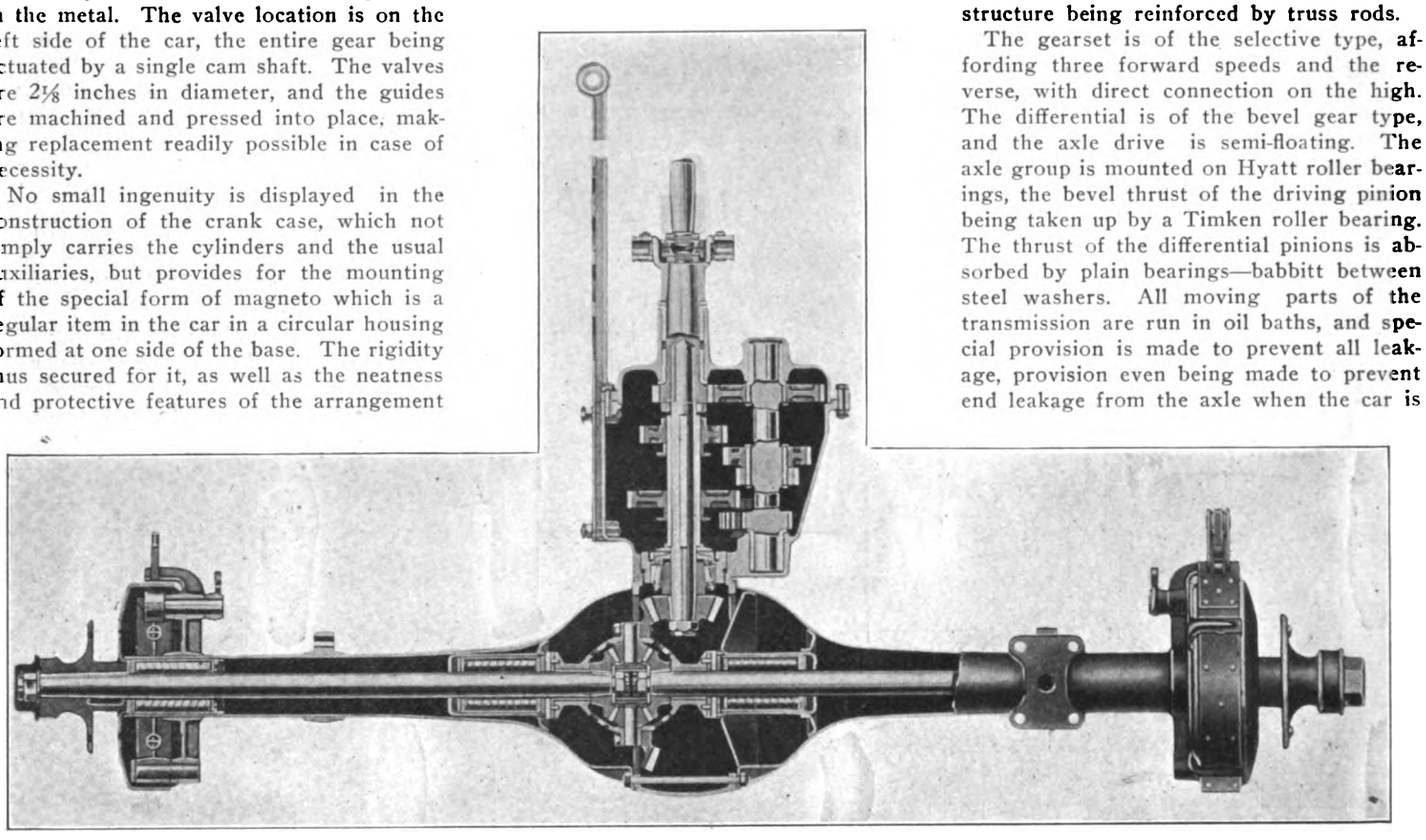
CHASSIS OF NEW E-M-F THIRTY

Coming to the details of the power plant, the chief points of interesting design are brought out. As its designation indicates, the motor is rated at 30 horsepower—the use of unusually large valves, unobstructed and direct ports, and accurately balanced parts, being held to account for a nominal output somewhat greater than usually is assigned to a motor of 4 by 4½-inch cylinder dimensions. The cylinders are cast in

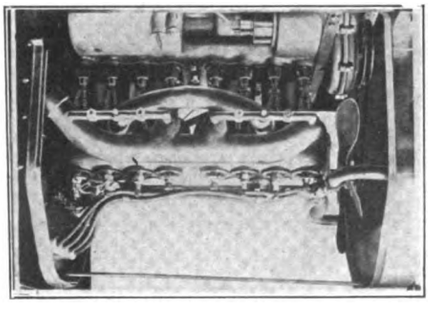
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pairs, with integral jackets, the water space being carried entirely around the bores, thus providing for absolutely uniform cylinder temperature, and a uniform expansion in the metal. The valve location is on the left side of the car, the entire gear being actuated by a single cam shaft. The valves are 2⅛ inches in diameter, and the guides are machined and pressed into place, making replacement readily possible in case of necessity.

No small ingenuity is displayed in the construction of the crank case, which not simply carries the cylinders and the usual auxiliaries, but provides for the mounting of the special form of magneto which is a regular item in the car in a circular housing formed at one side of the base. The rigidity thus secured for it, as well as the neatness and protective features of the arrangement are particularly commendable. Contrary to usual practice, the supporting arms are not formed integrally with the case, but are of pressed steel, U-section, like the main frame, and at once stronger and lighter than the ordinary method of support.



REAR AXLE OF E-M-F THIRTY, SHOWING TRANSMISSION



E-M-F MOTOR

The crank shaft is offset ¾ inch, and in order to further improve the running of the motor, all reciprocating parts are weighed and balanced in the assembling process. The connecting rods are drop forged, the crank pin bearings being of equal length on each side of the rod. The bearings are lined with die-cast babbitt. The crank shaft bearings are a special babbitt, known to the trade as "white metal" alloy.

Lubrication follows the well-tried splash bath style, but is regulated by a constant-level system of control, with vacuum feed. This system is such as to permit the use of very large feed pipes—⅜-inch—without danger of flooding or loss of feeding control.

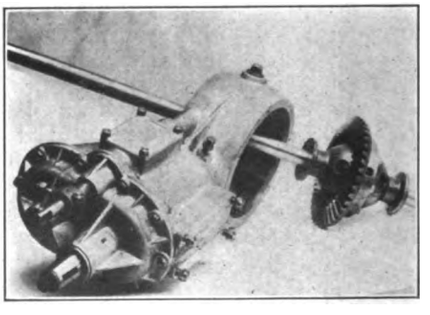
The ignition system includes in addition to the magneto, the dashboard coil, which is so mounted as to leave no wiring exposed; batteries distributor, and switch. It is important to observe that no portion of the system is exposed, all running parts of the magneto, like its drive, being fully enclosed in the above-mentioned crank case housing.

The cooling system follows the thermo-syphon plan, a belt-driven, stamped steel fan being the only moving unit included in it. The carburetter is of an improved float feed type, regulable from the driver's seat, and located on the right side of the car, away from all piping and other encumbrance.

The transmission comprises an unusually neat embodiment of the unit change-gear-axle type. The master clutch, which is an expanding ring, leather faced, is mounted in the fly wheel in the usual manner. The driving shaft is equipped with two universal joints, torsional resistances being taken up by a single torque bar, brought well forward on the frame.

The axle unit is composed of a right and left section, drawn from sheet steel and heat treated. It is of very light design, and embodies in its construction the much-discussed autogenous welding process, which ensures a practically perfect union of the parts. The center section forms the rear end of the gear casing, and is a casting, to which the end sections are bolted, the whole structure being reinforced by truss rods.

The gearset is of the selective type, affording three forward speeds and the reverse, with direct connection on the high. The differential is of the bevel gear type, and the axle drive is semi-floating. The axle group is mounted on Hyatt roller bearings, the bevel thrust of the driving pinion being taken up by a Timken roller bearing. The thrust of the differential pinions is absorbed by plain bearings—babbitt between steel washers. All moving parts of the transmission are run in oil baths, and special provision is made to prevent all leakage, provision even being made to prevent end leakage from the axle when the car is left standing on an incline or in running on grades. This attention to minor detail is characteristic of the construction throughout, and the design of the various parts discloses forms which in their adaptability to the most advanced manufacturing methods,



PARTIALLY ASSEMBLED TRANSMISSION

without a shade of sacrifice in efficiency so far as the finished product is concerned, show a most ingenious combination of manufacturing and designing considerations.

Supplementary spiral springs have created for themselves such a steady demand, according to the Supplementary Spiral Spring Co., of St. Louis, that the business this year is over 300 per cent. greater than it was last year.

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ABOUT TWO-CYCLE ENGINE DESIGN

Requirements as Specified by E. W. Roberts in Address to Engineers—His Methods Stated and Explained.

While the fund of general information concerning matters relating to the design of the four-cycle motor is of fairly comprehensive scope, it is equally true that comparatively little is known outside the draughting rooms of the few successful designers, of the requirements of the two-cycle motor. On this account the information collated in the shape of a series of notes on two-cycle engine design, presented recently before the Mechanical Branch of the Association of Licensed Automobile Manufacturers, at a meeting held in Cleveland, is of no small importance as a matter of reference and record. The author of the address, Mr. E. W. Roberts, has held an enviable position as a gas engine authority for a number of years.

The relative power of the two and four-cycle types has been held in question for a long time. Mr. Roberts states it as his experience, that about 1½ times as much power can be obtained from a two-cycle as from the more common type. A new two-cycle motor of 4½ by 5 inches cylinder dimensions, has been found to develop 19.89 brake horsepower.

One characteristic of the type, which he mentions as important in connection with its service in automobile work, is the fact that in general it develops more power in proportion at low speeds, and holds up its load tenaciously when doing heavy duty. "This is due," he explains, "to the fact that they are low in torque at high speeds, owing to being choked. . . . . The speed of the air entering the crank case during 90 degrees of the piston travel and at 900 to 1,000 r. p. m. . . . . is enormous. As I remember, a 4½-inch by 5-inch intake figures out 190 feet per second at 900 r. p. m. With a 1½-inch intake, the port will be about 2¼ inches long, measuring along a chord of the cylinder bore. With a 2-inch intake, the area is ⅝ inch greater and the ports are correspondingly longer."

Turning to the very important feature of timing and the laying out of the cylinder ports, he says:

"The usual practice, as I have seen it, is to open the inlet valve at or near the head center and hold it open until the other center is passed. . . . . The practice I have always gone on in the opening of the intake, both in the four and the two-cycle, is to hold open as long as possible without blowing back at moderately low speed. In two-cycles, the time of opening is limited in this way. If we are to use only one carburetter on a four-cylinder engine, we must not have two intakes open at the same time, and, therefore, we have to use a little less than 45 degrees on each side of the center. So the intake must be open a little less than 90 degrees; 43 to 44 is about what I use.

"The exhaust timing is not so important in this regard, if the exhaust is so carried off that the gases from the various cylinders will not interfere with each other.

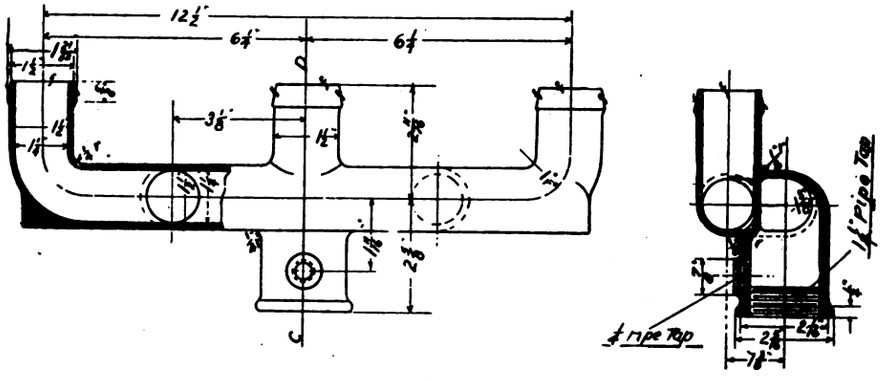


Fig. 1

"For the intake port to the crank case, I usually leave an opening as follows: I would start to open the port 44 degrees before the piston reaches the head center. You know that this port is opened and closed by the lower edge of the piston. The opening and closing will take place at the same angular position of the crank pin. This will, you see, leave the intake port open during 88 degrees of the crank circle. Now in a single, or two, or a three-cylinder engine it is practical to leave the port open a little longer, and I have used as much as 48 degrees on each side of the center, without a blow-back through the carburetter.

" . . . . The cylinder inlet port or that which communicates with the transfer port leading to the crank case (in the plain, three-port engine) . . . . can be kept open for the same time as the inlet port to the crank case, i. e., about 90 degrees. In the large ported, high speed motors, I have had to reduce this somewhat. It must be remembered that the cylinder intake port should open after the exhaust port. This is in order to allow the pressure in the cylinder to fall below that in the crank-case before the port leading to the crank case starts to open.

"It is my custom to make the opening of the exhaust about 58 and 59 degrees on either side of the center. It must be remembered that the exhaust must not only open soon enough but it must also open full enough to prevent any chance of the hot gases rushing back through the transfer port to the crank case, and thus cause a crank case explosion, or, as it is often called, a 'backfire.'

"You can prevent this to a certain extent by the use of a screen in the bypass, but I have very little use for a screen as a rule because they are troublesome to take care of. They choke up very easily and the easiest way to clean them is to put in a new one.

"As I have already pointed out, in the ordinary type of slow speed marine engines with small port areas I have used 90 degrees as the port opening for the cylinder inlet. But when I enlarged the ports for efficient running at high speed, this angle proved too great. I am unable to tell you the exact angle off-hand, but on 5-inch stroke the distance along the piston travel was reduced ⅛ inch.

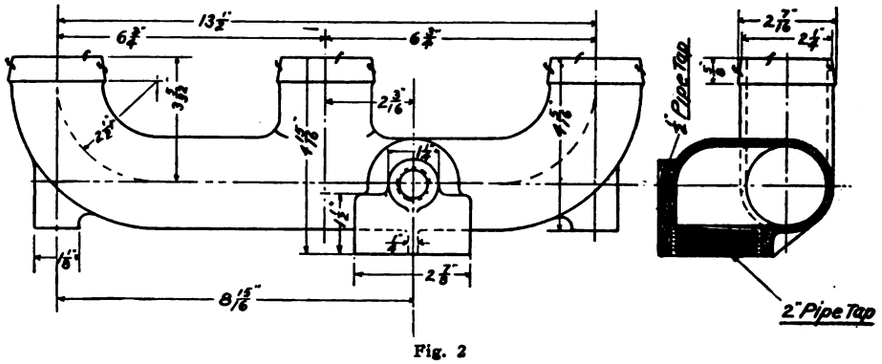


Fig. 2

" . . . . When laying out the ports of a two-cycle, ... always lay out the angles on the crank circle and work to the points these angles will give you, and remember that it is a case of time and not distance. Another thing you must bear in mind. That is, the shortness of the time that the two-cycle three-port intake is open as compared to a four-cycle. You must have a larger area than you would with a longer opening. While the crank case inlet

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of a two-cycle motor is open by 90 degrees, the inlet valve of a four-cycle is open anywhere from 200 to 210 degrees. Let us say 200. You will see, therefore, that you have in a four-cycle more than twice the time of opening that is employed in a two cycle of the three-port type. Hence the area of the intake must be more than twice as great in the latter as in the former. Common practice is to keep the average speed of the ingoing air at the normal speed of the engine, down to 100 feet per second.

"In order to keep close to this speed in a 4½ inch by 5 inch engine, I have had to use a 2 inch carburetter. That would be enormous on a four-cycle, as about 1¼ inch would be ample.

In order to keep the rings from jumping in the ports when they are so long it is necessary to use bars across them. I find the best way to make an exhaust port bar is to core it hollow and run water through it. . . . .

"The lowest crank case compression that I have found to give good results is 4½ pounds. I usually aim to get between 6 and 8, and most of my engines have 8 pounds. . . . . .

"In my judgment 8 pounds is about right, and I find if I go beyond 10 pounds I am likely to get into trouble. You will find that a great many designers who are just starting on the two-cycle engine proposition have the impression that it is necessary to get the highest possible pressure in the crank case. And, in order to get it, they use filling blocks, that is, discs attached to the crank webs. I find that by making the crank case as close to the moving parts as possible, leaving approximately ¼ inch clearance, I usually obtain 8 pounds crank case compression. In other words, I follow as closely as possible the path of the crank shaft and the connecting rod.

"With reference to keeping the crank case tight, there is a mistaken impression that as the engine wears the crank case will leak along the shaft; and quite a number have attempted to use packing to prevent it. This can be done quite readily on single cylinder engines, but on a multiple-cylinder it becomes quite a difficult proposition. The best practice is to use something that will stand the wear and use a comparatively long bearing; I am using die-cast nickel babbitt. . . . .

"Crank case explosions are due generally to the exhaust gas in an incandescent state rushing down through the transfer port and setting fire to the mixture in the crank case. Sometimes they are due to an overheated crank case. . . . . the period of inflammation of the mixture is the same in fractions of a second for the same proportion and for weak mixture the period of inflammation is longer than for high compression and rich mixture. Now one of the necessary points in avoiding crank case explosions is to get the flame out when the intake port opens so as not to set fire to the incoming charge, that is, the charge that is entering the cylinder from the crank case. Therefore, when running on low compression, it is necessary either to enrich the mixture or advance the spark. Therefore you can quite often stop crank case explosions at low speeds, or in fact at any time, by advancing the spark. . . . .

There is quite a little importance in designing the deflecting plate so as to get the best results. I get very good results by turning the ends of the deflecting plate toward the cylinder wall. In large engines the top of the piston should slope away from the deflecting plate towards the exhaust port. The deflecting plate should project from the piston as far as the clearance will allow, making it reach within about 3-16 inch of the cylinder head when at the end of the stroke. . . . .

"The best position for the spark plug is, I believe, directly in the center of the cylinder. If it is placed on the side of the cylinder, especially on the exhaust side, it is apt to require too much lead. The two-cycle engine is very sensitive to spark plug placed in a pocket; for it will increase the lead and if you do not get enough lead at light loads you are very likely to get crank explosions. . . . .

"For the exhaust manifold I use a long curve in the form of a U which leads the gas from two-cylinders. In a four-cylinder engine I join these two by a long curved Y pipe so designed that the exhaust does not interfere with that of another pair of cylinders. With three cylinders or less we do not have to be quite so particular, but still it is best to let the exhaust out with as little resistance as possible. In my small motors I use a straight pipe with the branches from the various cylinders curving into it. This makes a very convenient form, but is not quite so efficient as the manifold with the large curves.

"The intake manifold needs careful attention, and if not properly designed will cause one cylinder to get more gasolene than another so that while one cylinder is getting the proper mixture the other will be flooding. The best form of intake manifold for a three-cylinder engine is shown in the accompanying drawing (Fig. 1). In another form I tried bringing the mixture down from above so as to raise the carburetter and found that the reversing of the current has a separating action and causes the gasolene to deposit in the corners of the manifold. It was compelled to abandon the pouch and go directly to the straight pipe joining the three cylinders, as shown in the illustration of the larger manifold (Fig. 2). . . . .

"No matter how well designed your intake is, if the carburetter does not give a homogeneous mixture, one cylinder is sure to get more gasolene than the others. The carburetter must be such that it will give a homogeneous mixture. You must remember that the suction from the intake port of a three port engine starts with a high vacuum and the air goes through the carburetter with a rush. For example, when one of our large engines is running by a belt at 300 revolutions, a board held ¾ of an inch from the opening will be pulled out of your hand. In fact, I have placed a box weighing 8 pounds against the intake and the suction held it there. . . . .

"I formerly held to the opinion that the only proper place for a throttle for a two-cycle engine was in the by-pass or transfer port. The theory was that if you throttle at the carburetter you weaken the pressure in the base, and that the pressure in the base being lowered would not resist the rush of the flame from the spent charge in the cylinder. I assumed that by throttling in the by-pass I would retain the pressure in the crank case and at the same time choke the passage and between the two prevent the burning mixture from rushing down into the crank case. This proved good practice with an ordinary carburetter that did not give a good mixture, but by using a carburetter which gave a good mixture I found I got better results by throttling at the carburetter. . . . .

The only thing that I take into consideration (in connecting rod design) is the clearance in the crank case and try to make it as close as I can; and I always use as short a connecting rod as possible; 1.8 times a stroke is about as short a rod as I dare use. For instance, I would use a 9-inch rod for a 5-inch stroke. . . . . If you wish to hold the same conditions in one engine as in another, you must keep the area in the same proportion to the stroke. From 3½ to 4½ times a stroke is the area that you will find gives the best results. I have designs in all kinds of proportions. The bulk of them I have made run from 4½ by 5, to 3 by 2½. . . . .

"The construction of two-cycle engines requires very careful work. I find it advisable to mill the ports by using a milling cutter of small diameter and drop the cut right into the port. This gives the right width and the right distance from the end of the cylinder. If you do not get your ports right you will get into trouble. A great many manufacturers file them to gauges, but this is troublesome and inaccurate. You really have got to grind a two-cycle cylinder to get good service, because a reamer will jump more or less in going over the ports."

Extinguishing a Carburetter Fire.

A simple method of extinguishing a carburetter fire, given by a foreign expert, is that of turning off the main fuel supply from the tank and racing the engine. This, it is claimed, will tend to create sufficient draught through the intake pipe to keep the flames within reasonable limits, while the amount of fuel contained in the float chamber is so small that the fire will soon waste itself without doing any damage, expiring as a matter of course as soon as the fuel is exhausted.

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MAGNETO WITH STATIONARY COIL

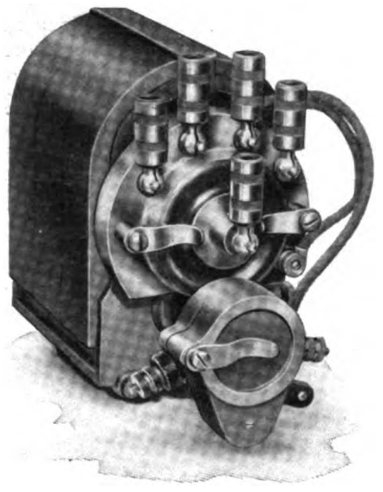
How the Armature is Supplanted in New Remy Device—Arrangement for Provisional Use of Batteries.

One possible objection to the construction of the ordinary type of magneto is that in the production of the primary current, the inert battery is replaced with a moving part—the armature—in which the current is generated, and from which it must be conducted to the transforming and distributing devices through a moving contact. Except for this, the apparatus employed is practically the same as that required for the more familiar battery and coil system. In the Type "L" Remy alternating current, high tension magneto, which has just been brought out by the Remy Electrical Co., Anderson, Ind., this objection is eliminated by the use of a stationary coil. The "inductor," corresponding to the armature of the ordinary magneto consists merely of a simple forging mounted on a steel shaft. The simplicity thus secured constitutes an asset of no mean value.

In its general construction, the magneto is of conventional pattern. Let into the pole pieces of the magnet is a single coil of No. 18 magnet wire. The "lines of force" of the magnetic circuit, passing through this, are reversed at each half revolution of the driving shaft, thus generating two current waves in the wire for each revolution. The primary winding thus constituted is connected with the primary of a non-vibrator spark coil, an interrupter, properly adapted to the type of motor to be ignited, being interposed in the circuit. By special design, the "current wave" is of considerable duration, thus permitting considerable latitude in timing, and the circuit is mechanically broken, during the period of its maximum intensity. Variation in the time of the break is accomplished by shifting the circuit breaker around the shaft on which the cam is mounted.

After passing through the coil and being "stapped up" to the high tension suitable for ignition purposes, the current is returned to the distributor of the magneto, through a single wire. The arrangement of the latter as well as the speed of the driving shaft, depends upon the number of cylinders to be fired. With the four-cylinder, four-cycle motor, the inductor is rotated at the speed of the crank shaft. With the six-cylinder, four-cycle motor, it is driven at one and one-half times the speed of the crank shaft. With the double-opposed motor, the inductor is driven at the same rate as the crank shaft, but the distributor is omitted, and the circuit breaker is fitted with a single cam.

Provision is made in the construction of the coil and switch, for the use of batteries in connection with the magneto, but without the use of a second coil. The switch also is provided with a push-button for use in starting "on the spark," when the batteries are in circuit. As the coil is intended primarily for magneto service, it is capable of handling an unusually high current strength, so that a very strong starting spark is produced at the plugs. While the batteries are in service, the current passes through the magneto, the regular distributor taking care of the secondary circuits. In this way, the system acts in precisely the same way as when being used with the



self-induced current, except that the primary is derived from a constant source.

Successful Handling of Tires.

It is a fact well known to tire men as well as to motorists of experience that tire life depends to a very great extent upon the skill and faithfulness of the driver. The rules for success in handling tires may be summarized as follows: First, find the maker's rule for inflating tires of the size and type employed on the car; then use a suitable gauge, and test them with sufficient frequency to maintain the correct pressure practically all of the time. Drive as straight as possible, avoiding car tracks and ruts as far as may be done, taking care not to turn the steering wheel any more abruptly than is absolutely required by the emergency. See that the differential gearing works freely and that neither of the brakes drags sufficiently to interfere with its action. Keep the tread surfaces free from oil, pick out loose gravel which may become embedded in the surface from time to time, close all small cuts promptly, and above all, learn to remove and replace the tires without pinching the tubes or tearing the beads on the shoe.

One of the Small but Important Parts.

One of the smallest pieces, and yet as important a part as any on an automobile is the minute platinum contact piece on the end of the adjusting screw of the coil and on the blade. Though an essential part it seldom exceeds one-sixteenth of an inch in any dimension.

TESTING TORTIONAL STRESSES

Experiments Show Ratio of Actual Strength of Propeller Shaft to Possible Strain—Big Factor of Safety.

Of interest as showing how far the factor of "guesswork" has been eliminated from the processes of designing and constructing automobiles, the results of a special test applied to the propeller shaft of the Rambler car may be taken as a typical instance. Under ordinary circumstances, the chief stresses brought to bear upon the shaft are torsional, or twisting, and due to the driving effort of the motor, on the one hand, opposed by the tractional resistances at the wheels, and the frictional losses in the transmission, on the other. Therefore the test applied to prove the actual strength of the shaft in relation to the work it may be supposed to be likely to perform, was a torsional test.

For this purpose, a short measured length of one of the regular shafts, together with the squared end upon which the gears are mounted, was gripped in the torsion machine and twisted, by means of a rack and pinion having a 2¼-inch radius of action, which corresponds exactly to the length of engine crank. The opposite end of the shaft being held perfectly rigid, the entire load was absorbed by the fibers of the shaft.

In this way it was found that 12,000 pounds pressure was necessary in order to twist the shaft, while a permanent "set," or distorsion, was developed under a load of 13,000 pounds. Under 14,000 pounds pressure, the squared portion of the shaft yielded, but was not permanently distorted until another thousand pounds had been added to the load, when the test piece was removed from the machine. It was then found that the shaft had been permanently twisted through a half turn, but without developing any sign of rupture. When it is stated that the maximum calculated pressure derivable at any moment from the engine is 2,800 pounds, the actual leeway allowed for emergency strains, or in other words, the factor of safety, is apparent.

Wheel to Ease the Work of Steering.

Efforts to improve the design of steering wheels, to make them as restful and convenient to the hands as possible, have not abated. One of the latest of the new ideas developed is a steering wheel form in which the rear half of the wheel rim has been cut away and a spade-handle form of grip mounted on each side. For all ordinary steering the effect is much like lever control, but when it is necessary to turn the steering mechanism to an extreme position, the rim on the forward part of the wheel is ready to the hand, so that it is not necessary to keep to the handles if they revolve to an awkward position.

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BRAND NEW ALLOY OF ALUMINUM

"Magnalium" Said to be Stronger and Lighter Than Its Basic Component—Its Greater Adaptability.

Among metals developed in connection with motor car construction perhaps none has been more rapidly advanced from a state of comparatively insignificant use to one of extreme importance than aluminum. Notwithstanding the almost universal extent of its present application, however, its use is limited by several considerations—among them its strength, and the fact that it cannot be forged, welded, or even soldered by ordinary processes. In a new alloy, "Magnalium," which is produced by the Magnalium Syndicate, of Berlin, Germany, many of these defects have been removed, as is claimed, by the introduction of a low percentage of magnesium.

Its value, particularly as applicable to automobile construction, is shown by the statement that it can be forged by hand or drop hammer, handling about like Swedish steel, and that it requires no special skill in treatment, so that it can be worked by the ordinary blacksmith or foundryman. Furthermore, it can be soldered by the use of a special solder, although it cannot be welded. It can be produced in rolled plates, bars, rods, wire and tubing, and in any form shows greater strength than the ordinary aluminum alloys, despite the fact that it is lighter. In machining, it is said to work much like brass, taking about double the tool speed of aluminum. It resists oxidation successfully, is not affected by dry or damp air, water, ammonia gas, carbonic acid, and most organic acids. It is slightly affected by sulphuric acid, and more rapidly by alkaline solutions, while its sensitiveness to the action of salt water is not sufficiently marked to be objectionable.

The specific properties of the metal, which is produced in several grades, ranging in composition from 90 to 98 per cent. aluminum, are given by its makers as follows. Specific gravity, 2.5, as compared with that of ordinary aluminum, which is 2.64; electrical conductivity, 56 per cent. that of pure copper; melting point, 1,185 to 1,250 degrees F.; specific heat, 0.2185.

Its strength, varying with the method of treatment, is given by the following comparisons. Sand castings, of "Class X" magnalium, 18,491 to 21,336 pounds per square inch, with a reduction of area of 3.75 per cent.; chilled castings, 22,759 to 25,604, with a reduction of 3 to 8 per cent.; Class "A," (90 per cent. aluminum), 69,890, with a reduction of 4.19. The strength increases under rolling and drawing treatment, the hard rolled plates of Class "Z" showing 52,203 pounds per square inch strength, with a 3.7 per cent. reduction, drawn wire, 41,000 to 53,000 pounds; drawn rods, 60,000 pounds, and drawn tubing, 74,000 pounds per square inch.

Magnalium is in use abroad in the manufacture of small utensils, such as ordinary aluminum has been employed upon more or less extensively, and in all branches of light manufacturing. Samples of the metal exhibit a close grain, characteristic white color, take and hold a good polish, and in the form of plates and rods, show a surprising amount of elasticity and strength. For instance, a spring wound from wire of about 3-16 inch section, for purposes of demonstration, develops a resistance which is really surprising. The American agency for the metal has been taken by Morris R. Machol, of New York City, who imports it in ingot, or in special forms as may be required.

To Clear a Cylinder of Fragments.

It occasionally happens that a broken valve or spark plug proves a source of considerable annoyance and expense because of the difficulty of removing the broken fragments from the cylinder. This difficulty is most likely to arise in motors which have cylinders mounting the valves in offset pockets, so that there is no really sizeable opening directly into the bore proper. Sometimes, probing with a wire or a pair of long-nosed pliers will suffice, but more often, the parts must be left in the cylinder to work whatever harm they may, while the car is run to the nearest garage on the other cylinders, pending opportunity to take down the cylinder and clean it out. A simple kink, suggested by one who has had plenty of experience of this sort, is that of jacking up one side of the machine as high as is possible, taking advantage of the pitch of the road at the gutter, whenever possible, and after removing the valves, cranking the motor as rapidly as possible. The loose particles of broken metal or porcelain will then be thrown upward by the piston, and ultimately will hop out into the valve pocket, from which they can be removed without further difficulty.

Speedometer Driven from Live Axle.

Although it has been supposed hitherto, that the constant action of the differential and the slippage of the driving wheels would prevent the successful exploitation of a speedometer made for attachment to the rear of a chassis, a British maker has had the courage to undertake the production of such a device, intended to be driven from the propeller shaft of live axle cars. Several points of advantage are claimed for the system, while it is asserted by the makers in question that the rear wheel slip, contrary to the general impression, is practically negligible.

Give the Battery Plenty Acid.

Users of storage batteries should bear in mind that the "life" of the battery is seriously affected if the acid does not cover the plates.

CARE OF THE IGNITION SYSTEM

Why the Insulated Wires Require Special Attention—Causes of Trouble and How to Combat Them.

Most of the ignition troubles which used to be such a bug-bear to the private owner, have now been removed by improvements in the design of the ignition system—a work of salvation for which it is impossible to give too great credit to the manufacturers of ignition apparatus. At the same time the present day owner who is at all neglectful, frequently finds himself in difficulties from which the only way out is the expensive and time-absorbing one of complete or partial re-equipment. That such dilemmas most commonly are caused by neglect, is aptly proved by the dearth of experiences of such a nature among users who are willing to devote a proper amount of time and attention to the work of maintenance of the machine.

"Probably there are no conditions so severe for insulated wire as those existing with the wires of the electrical ignition apparatus on a motor car," says a foreign expert whose experience in other lines has led to this conviction. "The constant vibration, dirt, dust, moisture, oil, that are constantly flying about all bring very severe strains upon the insulating envelope of the cables. Oil quickly softens rubber, and causes it to lost its insulating properties. Dirt and moisture have a nasty knack of getting at connections where wires enter, or pass under screws, and promptly commence to attack them. The vibration of the car is constantly tending to drive the metal parts through the insulating envelope of the conductors and to break wires off short at screws.

"All of these troubles can be guarded against and the ignition apparatus kept well up to its power, day in and day out, year in and year out, provided that it is well laid out in the first instance, and provided that some one is constantly on the lookout for possible causes of trouble. The cleanest of clean housemaids, if she could be set to keep the component parts of an electrical ignition apparatus clean, could not produce results too good for the requirements of a motor car."

Removing Gear Wheels from Shafts.

When attempting to remove sprockets or other gear wheels from shafts to which they are attached by means of taper or plain fits and keys, care should be taken not to use the hammer too freely, for fear of either fracturing the gear or springing it out of line. A so-called "pulley-puller," or special jack may be contrived without difficulty under almost any circumstances, and by its use the part may be removed without imposing any undue strains upon it.

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UTOPIA FOR THE AUTOMOBILIST

Ladies in Palmer Plan to Create the "City Automobile"—Not a New Vehicle, but a New Metropolis.

It all came about at a recent meeting of the Old Center Improvement Club. What? You haven't heard of the Old Center Improvement Club? Then perhaps you've never been touring over the sandy roads of a certain part of Massachusetts, tired, dusty and thirsty, with acres and acres of sand and never a drop—of water—to drink, and then suddenly run kerplunk into the free rest room at Palmer that was established by ten estimable ladies of Palmer's "old Center," and one of those ten estimable ladies poured out a cooling glass of lemonade for Marjorie and gave you a glass of iced tea—at least it looked like that only it had a spring of spearmint propped between the chunk of ice and the maraschinoed cherries—and you settled down in that big leather arm chair over by the northeast window and just blessed one-tenth of those ten estimable ladies and wished you could settle down there for life.

No? Then you don't know what you've missed.

Well, anyway, it was those same estimable ladies that form the Old Center Improvement Club, who were sitting in the automobilists' rest room the other day sipping their eau de vie de Dantzigs which has the cute little fiddlededees trickling down that somehow just remind one of a rainbow suddenly falling to pieces and dropping through the sea, when President Etta King Ogle's countenance suddenly illuminated.

"Just the very thing! Perfectly grand for automobilists!"

"Prithee tell us, please," implored the other nine.

And then the presidentess unfolded the plan that will make Utopia for the poor, lonesome automobilist who, like Eugene Sue's "Wandering Jew," have had to peregrinate around the country with no homes of their own. Some of them may have paused in out of the way corners like New York, Philadelphia, Boston, Chicago, or Barnegat, but other plebeians lived here too, such as horse drivers, steeple jacks, artists, tug boat captains, brokers, and others. But aintitawfulmabel that there hasn't been a place just for automobilists?

It will not be so long, for that memorable meeting in old Palmer some time ago marked an epoch in the history of automobiling that will go down in the annals—but anyhow, here jumps the cat right out of the bag. Sssssh! Don't tell any one just yet, for it may not happen, but the estimable ten ladies who form the Old Center Improvement Club, which built the automobilists' free rest room 1½ miles from Palmer, intend to build the "City Automobile."

The "City Automobile" will be situate in—quoting from the presidentess—"the old historic Center, a bit of country more lovely than any on earth. Bold and picturesque scenery—noble hills shouldering the sky—rich meadows interlaced with trout brooks. Just the spot for a lovely City Automobile . . . . . better than Lenox."

Don't think this is an advertising scheme. Far be it from the estimable ladies of the Old Center Improvement Club to foist a "scheme" on an unsuspecting public.

Not at all—"the thought was born from reading of the country persecution of the autoist (quoting Presidentess Etta King Ogle again) and it became crystalized, to plant a city of wealth and homes right here in this beauty-field, skirted with forests, fine heights . . . . no noise, no dust from the railroad," and in fact, lots of other things one column three inches running over into the next line long.

If it hadn't been for the fact that the lawyers' and business men's clubs around old Palmer were slow the women wouldn't have taken things into their own hands but, being imbued with the true Western spirit, as they say—

And that's the answer.

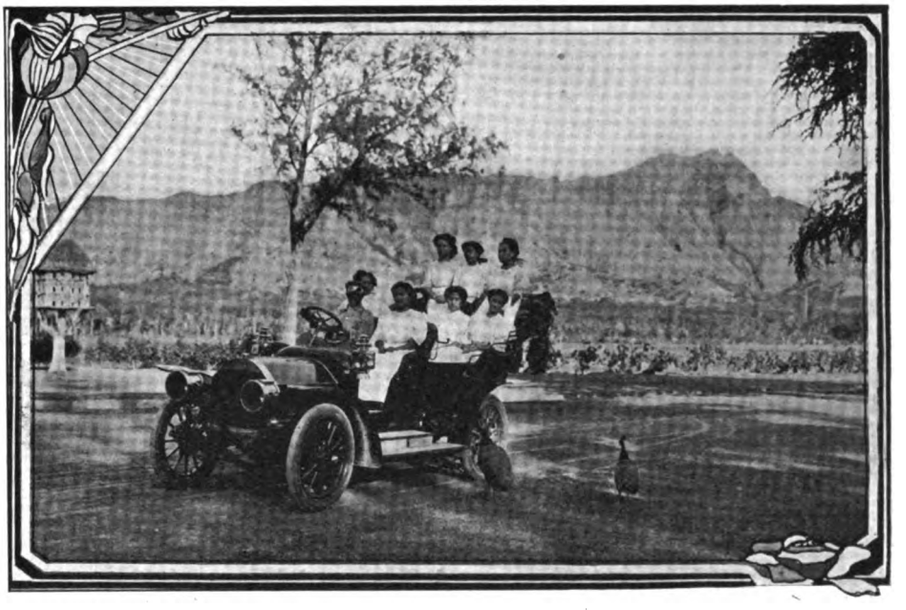
Boston Gets Its Taxi-Motor Cabs.

Taximeter motor cab service was inaugurated in Boston, beginning last week, when twenty-five vehicles built for the service by the E. R. Thomas Motor Co., of Buffalo, N. Y., were put in commission by the Taxi-Motor Cab Co. There was immediately a demand for them by the citizens of Beanopolis, who are obliged for the present to call a cab by telephoning to the company's headquarters in the Motor Mart. Regular stands will be established within a few days. The rates of fare, as fixed by the Police Commissioner, are similar to those established in New York City.

ON HAWAII'S BEAUTIFUL ROADS

Where Grandchildren of Savages Ride in the Most Modern of Vehicles—Attractiveness of the Islands.

While the automobile has become a more or less familiar sight in almost every part of the world, in many countries and places it still is somewhat of a curiosity. In many climes the impression exists amongst the semi-barbaric and barbaric inhabitants that the self propelled motor car is some sort of a "devil wagon"—and the natives employ this description of the vehicle with a far different meaning than does the Anglo-Saxon. To Glidden, and others like him, many hundreds of people are indebted for their first and only sight of an automobile, and while to these strange and almost unknown races the motor car still is, and for many years will be, an object of intense wonderment, it gradually is finding its way into more general use throughout the civilized world and to-day is unnoticed in countries where a very few years ago it would have been a marvel.



BEVY OF HAWAIIAN BEAUTIES JOY RIDING NEAR HONOLULU

One of the very attractive places for automobiling is the Hawaiian Islands, as is shown by the accompanying illustration, which depicts a Studebaker car on the roads near Honolulu. The condition of the roadway, the picturesque scenery, together with the long days and cool evenings of tropical countries supply conditions for motoring which readily account for the popularity which motor cars have achieved in this portion of the tropics within a comparatively short time. The presence of the most modern of vehicles on well kept roads through regions where cannibals dwelt little more than a century ago is a striking illustration of the progress of civilization.

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NEW RESTRICTIONS IN THE PARKS

Ordinance Adopted Bars Out Vehicles Emitting Smoke and Nauseous Vapors—Many Complaints Reported.

At a meeting of the New York City Park Commission, held Thursday last, 23d inst., a rule was adopted which aims to exclude from the use of the park highways of the city, automobiles that emit smoke and nauseous vapors. The ordinance reads: "No person shall be permitted to run a motor vehicle in the parks or parkways of this city, under the jurisdiction of the Department of Parks, which emits from the exhaust or muffler thereof offensive quantities of smoke or gas or disagreeable odors."

In discussing the new rule, Commissioner Smith said that he had received many complaints from drivers and others who use the parkways, to the effect that the smoke and odors from many machines made driving almost intolerable.

"The taxicab companies were most complained of as offenders," said the commissioner, "and I had the park police take the numbers of all machines that smoked. These I submitted to their owners, but the cars still smoked."

Incidentally, he mentioned the danger in driving behind automobiles from which heavy smoke or ill-smelling gases come, and remarked that a like measure had long been in force in other cities. The ordinance goes into effect on August 1, and Captain Farrell, in charge of the park police, was ordered to explain the new order to the park policemen and to instruct them what action to take.

Rock Island to Impose a Wheel Tax.

Chicago, in imposing a wheel tax upon all vehicles, and in securing a court decision in favor of the legality of that tax, has set an example that other Illinois cities might be expected to follow as a matter of course. Rock Island is the next to look with favor upon this new method of shaking down, the chief victims of which naturally would be automobile owners. The intended victims, however, are doing their best to prevent the city council from adopting the ordinance for the purpose which has been introduced. They have been trying to show the city fathers its unfairness.

Police Testimony Fails to Convict.

When the automobilist falls into the hands of the trap operating country cop, it is almost a cinch that the average cost per mile of his trip will be swollen by the addition of a fine, for the cop's word goes, as a rule. But there was a notable exception the other day when Charles N. Fitts, of Newton, Mass., was haled before Judge E. B. Pratt, in the district court of the town of Hingham and, without lawyer or witness, succeeded in convincing the court that the three policemen operating the trap could not have timed him correctly. After hearing the testimony of the policemen Mr. Fitts testified that he had a speedometer on his car and just as he entered Hingham he noticed the large sign that he never saw before asking the automobilists to keep the speed down to 15 miles an hour and he accordingly cut his speed down until he passed a sign giving eight miles as the limit. He testified that at no time until he was stopped did his speedometer show more than 11 or 12 miles an hour. He was promptly acquitted.

How Automobiles Aided the Runners.

Although the message which Mayor McClellan, of New York, sent to Mayor Busse, of Chicago, "by bearer," was carried the entire thousand miles of the way on foot, the irrepressible motor car played an important part in the accomplishment of at least one stage of its travels. From Syracuse to Auburn, N. Y., three trucks, loaned by the H. H. Franklin Mfg. Co., carried 44 of the relay runners, dropping them one at a time to relieve others who were picked up at three or four minute intervals. Needless to say the freshness of the reliefs, not to mention the cheering influence of having the whole team present to witness the efforts of each individual, went a long way toward making that portion of the enterprise a successful one.

Hartford Contracts for an Ambulance.

Having rejected all bids for supplying an automobile ambulance to the city of Hartford, Conn., the police commissioners —to whose department the city ambulance service is attached— have given the contract to the receivers for the Pope Mfg. Co., without the formality of public letting. The contract price for the ambulance is $3,750, the figure submitted by the receivers in the original bid, but which was not the lowest. The new ambulance is to be a Pope-Hartford of 30 horsepower, with a wheel base of 130 inches. The body will be of the approved modern type incorporating side doors and having cots for four persons, all of which are compactly housed when not in use.

Tipping Off Motorists Offends Police.

When Percy Hollsworth, of 206 West 140th street, Manhattan, was arrested for speeding on Bay street, Stapleton, Staten Island, on Saturday, 25th inst., the police got from him a card on which was printed, "Do not speed here; police in plain clothes are watching you and you will be arrested." Hollsworth said the card was handed to him by a man at the St. George ferry, and the entire force on Staten Island was put on the lookout for the man who thus dared to warn motorists against fracturing speed regulations. Hollsworth had to put his diamond ring in hock at the station house to insure his appearance in court.

OHIO'S NEW LAW TO BE TESTED

Cincinnati Automobile Club to Join in Friendly Litigation—Question of Double Taxation the Main Issue.

What appears like double taxation to the Ohio automobile owners is to be subjected to a thrashing out in court. The constitutionality of the new State law is to be tested in a suit to be managed by Harry Probasco, of Cincinnati, attorney for the Cincinnati Automobile Club. Neither Mr. Probasco nor the members of the club seriously object to the State registration fee, but they do object to the additional imposition of local license fees under city ordinances. Mr. Probasco does not have much faith that the State law will be held to be unconstitutional, but since the suit is to be a friendly one all the way through, he has decided to raise the question as to the validity of the State law, while attacking the legality of the Cincinnati ordinance.

Missouri Law Indifferently Obeyed.

Missouri automobile owners have not been prompt to observe the requirements of the law enacted in 1907, only 3,000 having registered their machines with the Secretary of State. Chauffeurs are even more backward in the matter. The number of automobiles registered is regarded as a very small percentage. Secretary of State John E. Swanger has got his dander up and notice has been given that both owners and chauffeurs will have to toe the line before August 1st or be prosecuted. The law requires that chauffeurs shall be registered and receive badges which they are required to wear, displayed as a policeman does his star. The machine owners are required to send to the Secretary of State at Jefferson City detailed information as to their automobiles. The registration fee is $5, and this money goes to a fund for the improvement of roads.

Indianapolis Enforcing Its Shakedown.

Indianapolis authorities are after those automobile owners who have failed to pay their license fees for 1907 under the city ordinance imposing a local fee. More than 100 warrants, sworn out in November, 1907, have been placed in the hands of Patrolman Kerins, who thus far has succeeded in placing 15 recalcitrant owners before Judge Whallom. Each of the victims of the law was mulcted in a fine of $1 and costs. When the warrants were issued in November last automobile owners contended that the State law was explicit in declaring that the State license fee was the only fee that should be charged, and that they should not be required to pay the city license fee. A test case was instituted, and the city won on the ground that the ordinance was a police regulation and not a revenue tax.

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The Week's Patents.

888,196. Igniter Mechanism for Internal Combustion Engines. Edwin Ruud, Pittsburg, Pa., and Conrad Regenbogen, Manchester, England, assignors to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed May 18, 1904. Serial No. 208,577.

1. In an internal combustion engine in combination with an inlet valve, a pivoted valve operating lever, a cam actuated rod for actuating said lever, a yielding connection between said rod and said lever whereby said rod is capable of further motion after said valve is closed, an igniter trip bar pivotally mounted on said rod, a stationary igniter terminal, a pivoted igniter terminal adapted to be moved into contact with said stationary terminal by said rod through the agency of said trip bar, an adjustable timing device for controlling the pivotal motion of said bar and releasing said movable terminal and means for forcing said movable terminal out of contact with said stationary terminal.

888,214. Tire for the Wheels of Road Vehicles. Jean V. F. A. Yberty and Emile B. Merigoux, Royat-les-Bains, France. Filed Aug. 9, 1906. Serial No. 329,907.

1. In combination, a wheel rim, tire support therefor of U shaped cross section provided with bolt holes, a tire composed of a plurality of distinct elastic units spaced apart from each other and provided with openings, tire bolts extending through said openings in said units and said support, said support being provided with slots, support bolts extending through said slots and between said units, wedge shaped blocks interposed between said units and forming therewith a continuous tread, block links loosely secured to said blocks and having slotted ends connected with said support bolts, and rim bolts connecting said support bolts with said rim.

888,225. Friction Gearing. James K. Cochran, Chicago, Ill. Filed Dec. 26, 1905. Serial No. 293,370.

1. In gearing of the character described, the combination with a shaft and a plurality of friction members thereon provided with a plurality of sets of friction faces, of a plurality of sets of adjustable friction wheels, one of said sets co-operating with each set of friction faces, and common actuating means for the various sets of friction wheels connected to the same for effecting their simultaneous adjustment.

888,226. Starter for Combustion Engines. Lembert C. Coppock, Marion, Ind., assignor to Coppock Motor Car Company, Marion Ind., a Corporation of Indiana. Filed April 4, 1907. Serial No. 366,366.

1. A plurality of combustion engine cylinders, means mounted in connection with each cylinder for starting the engine, a lever for controlling the starting mechanism for each cylinder, a rotary rod mounted in the means in which the levers for all of the cylinders are fulcrumed, eccentrics on said rods for actuating said levers, and means mounted on said rod for turning it by hand.

888,265. Power Transmission Mechanism. Norman Ruland, New York, N. Y.—Filed July 20, 1907. Serial No. 384,711.

1. In combination, two oppositely disposed rotatable discs, a friction wheel intermediate said discs and in engagement with the surface of each and movable along said surfaces to vary the relative speeds of rotation of said discs and said wheel, and means for applying fluid pressure to both of said discs to hold them in engagement with said wheel with equal pressure and to eliminate side thrust upon the wheel.

888,269. Cushion Tire for Road Vehicle Wheels. James Stevens, London, England. Filed March 26, 1906. Serial No. 307,963.

1. A protecting cover for resilient tires of wheels of road vehicles comprising an endless flexible band around the periphery of said resilient tire, a series of concavities in the periphery of the resilient tire, insertion pieces fitting in said concavities and located between said band and the resilient tire all round the latter to prevent creep, a series of protecting shoes of channel shape in cross section, and means to secure said shoes to the said band and insertion pieces —to thereby hold said shoes spaced apart in position over the said resilient tire and a band of flexible material such as leather or canvas located between the said insertion pieces and said resilient tire substantially as described.

888,282. Explosive Engine. Henry O. Westendarp, Saugus, Mass., assignor to General Electric Company, a Corporation of New York. Filed Nov. 4, 1903. Serial No. 179,771.

1. In an explosive engine, the combination with an explosion cylinder provided with exhaust and admission ports, and a power piston in the cylinder covering and uncovering said ports, of means for injecting a scavenging charge at substantially atmospheric pressure into the cylinder, through certain of the admission ports and means for injecting a charge of fuel into the cylinder through other admission ports substantially in continuity with the scavenging charge and at a definite point in the compression stroke of the piston after closure of the exhaust ports.

888,302. Wheel Tire. Frank N. Boughn, Riverside, Cal. Filed Oct. 29, 1907. Serial No. 399,660.

A vehicle wheel having a rim provided with a flattened tread surface and provided at one side of said surface with an integral annular flange, the said tread surface being formed at intervals with transverse grooves, a metallic tire having a flattened base resting against said flattened tread surface, said tire being engaged at one side of said flange, transverse ribs upon the flattened surface of the tire engaging the grooves in the rim, and a removable retaining flange at the opposite side of the rim engaging the opposite side of the tire and engaging and holding said ribs seated in the grooves.

888,345. Pneumatic Tire. Harry Musclow and William A. Roberts, Vancouver, British Columbia, Canada. Filed July 23, 1907. Serial No. 385,109.

1. As an inner tube for a pneumatic tire, the combination with an inflatable tube ring of flexible elastic air tight material, of a denticulated ring cemented round the tread of the tube on the inside and a corresponding denticulated ring on the diametrically opposite side of the tube the denticulations of the two rings interprojecting and the conformation of the inner cemented rings and the sides of the dentriculations approximating to the inner conformation of the tube before inflation.

888,347. Vehicle Spring. Michael M. McIntyre, Cleveland, Ohio, assignor to The Perfection Spring Company, Cleveland,

Studebaker

RECORD FOR JUNE

Perfect Score In the 24 hour endurance contest at San Leandro, Cal., under the auspices of the Frisco Automobile Club, a Studebaker "30" Model H stock car finished with a perfect score, and was the only contestant to run the entire 24 hours without stopping its motor.

Perfect Score In the Wilmington, Delaware, Sealed Bonnet Contest, held June 27th, a Studebaker "30" entered, finished with a perfect score.

Perfect Score In the Stroudsburg, Pennsylvania, Endurance Run, June 27th, the Studebaker "30" finished with a perfect score.

Studebaker Wins In the Hundred Mile Road Race at Portland, Oregon, June 4th, over a 14.5 mile course, the two Studebaker cars entered won first and second place in competition with ten other cars. The winning Studebaker covered the 100 miles in 2 hrs. 4 min. 8 sec.

Studebaker Wins June 27th, in the Hill Climb at Delaware Water Gap, Pennsylvania, the Studebaker made the mile climb in 2 min. and 2 sec., winning the event.

Complete map of Glidden Tour just out. Write for it to-day.

Studebaker Automobile Co.

General Office, CLEVELAND, OHIO. Main Factory at SOUTH BEND, IND.

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Ohio, a Corporation of Ohio. Filed June 2, 1906. Serial No. 319,814.

1. The combination, with the hangers or outriders of a vehicle, of an upper and a lower spring member clamped together to form a unitary structure, links or shackles extending upwardly from said hangers or outriders and connected to the ends of the upper spring member, and links or shackles extending downwardly from said hangers or outriders, the lower spring member terminating in scrolls, the ends of which are connected to the last mentioned links or shackles, substantially as specified.

887,691. Electrically Driven Vehicle. William B. Potter, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 25, 1903. Serial No. 163,088.

1. The combination with a trolley pole, of a universal joint cross swiveled thereto, a contact shoe lingitudinally pivoted on said cross, and means for yieldingly holding said shoe at an oblique angle to said pole and in a definite swiveled relation thereto.

887,701. Steering Gear. Charles J. Schoening, Honolulu, Hawaii, assignor of one-third to George P. Cooke, Honolulu, Hawaii. Filed May 4, 1907. Serial No. 371,773.

1. A steering gear for motor vehicles provided with a steering column made in sections telescoping one in the other, means in connection with the sections for preventing rotary movement thereof with respect to each other and a locking device for locking the sections in the adjusted position.

887,781. Transmission Device. Anton P. Fischer, Pittsburg, Pa. Filed Oct. 24, 1907. Serial No. 398,878.

1. A transmission device of the class described, comprehending a rotative cylinder of elliptic form in cross section, provided with oppositely disposed by passes communicating with the interior thereof and having an exterior annular extension about its axis of rotation, oscillatable valves in said by-passes, a sleeve carried by said extension and adapted to slide longitudinally thereon, means associated with said valves and sleeve whereby a sliding movement imparted manually to said sleeve will oscillate the valves, a rotative piston in said cylinder provided with oppositely disposed radial slots, spring actuated blades in said piston slots adapted to engage the walls of the cylinder, and a liquid filling the unoccupied space in said cylinder and by-passes.

887,824. Automobile Gearing. Lester V. Lochner, Auburn, Ind. Filed Oct. 14, 1907. Serial No. 397,383.

A gearing of the class described, comprising a drive shaft, a driven shaft geared thereto, the driven shaft having yokes secured at its outer ends, the yokes comprising vertically extending portions and outwardly and horizontally extending portions at the upper and lower ends thereof, the driven shaft having hemispherical gears at the outer ends, the teeth of the gears being arranged in circumferential rows upon the hemispherical faces, the teeth of the alternate rows being arranged between the teeth of the opposite rows, a second yoke mounted for angular movement with respect to the first yoke, the yoke having a shaft, a hemispherical gear carried by the shaft and arranged to mesh with the first named gear, and a steering apparatus connected with the last named yokes.

887,888. Carriage Cushioning Device. Melanie Wolf, New York, N. Y. Filed May 18, 1907. Serial No. 374,373.

1. In a motor vehicle, the combination with a motor, of a cushioning device comprising compressed air cylinders, spring plates secured to the axles of the vehicle and supporting said air cylinders, spring actuated pistons working in said air cylinders, and universal joints connecting the piston rods with the underframe of the vehicle, a compressed air receptacle communicating with the said air cylinders, an air pump supplying compressed air to said receptacle, a crank shaft to be operated from the motor and driving the air pump, and means to at a certain pressure automatically disconnect the air pump from the motor, substantially as set forth.

887,925. Shock Absorber. David M. Davis, Washington, D. C. Filed June 1, 1907. Serial No. 376,869.

1. A shock absorber comprising a cylinder having communication with the atmosphere, a piston in said cylinder, receivers, fluid passages from the cylinder to the receivers, return fluid passages from the receivers to the cylinder, non-return check valves for the first-mentioned passages, and regulating valves for the return passages.

887,961. Friction Transmission Mechanism. Byron G. Pfeiffer, Detroit, Mich. Filed July 11, 1907. Serial No. 383,165.

1. Transmission mechanism comprising a main shaft, a follower shaft in axial alignment therewith, a friction clutch adapted to directly couple the shafts, a conical friction drum on the follower shaft concentric with the main shaft, a friction cone reduction train adapted to operatively connect the exterior face of the drum with the main shaft, a reversing friction cone train adapted to operatively connect the interior face of the



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drum with the main shaft, and means to throw said trains into gear.

887,988. Deodorizer for Internal Combustion Engines. William R. C. Wakley and Robert Parsons, London, England. Filed Dec. 14, 1907. Serial No. 406,558.

1. In a deodorizer for the exhaust gases of an internal combustion engine, the combination of a casing, a perforated water receptacle connected to a water circulating system, an inlet and an outlet for the exhaust gases so arranged that the said gases pass through the jets of water, a sump to receive the water, a filter, and a pipe connecting the sump with the said water circulating system.

888,074. Means for Starting Internal Combustion Engines. Giovanni Enrico, Turin, Italy, assignor to F. I. A. T. Fabbrica Italiana Automobile Torino, Turin, Italy. Filed Oct. 3, 1906. Serial No. 337,292.

1. In an internal combustion engine, the combination with the cylinder of inlet and outlet valves, cams for operating such valves, a hollow cam shaft carrying such cams, an additional valve adapted to admit compressed fluid to the engine for starting purposes, a cam for operating said additional valve, said cam being independent of the outlet and inlet valve cams, and being adapted to slide on said cam shaft, and a second shaft for operating the cam for the additional valve, said shaft extending within the cam shaft and being connected to its cam throcgh slots formed in the cam shaft.

888,195. Timer. Walter W. Robinson, West New York, N. J., assignor to Witherbee Igniter Company, a Corporation of New Jersey. Filed Aug. 24, 1907. Serial No. 389,973.

1. In a timer of the character herein specified, the combination with a hollow casing, contacts carried thereby, and a rotatable member located therein, of a spring-actuated roller carried by said member, and a loose ring having smooth inner and outer faces located between the roller and the wall of the hollow casing.

887,279. Odometer Mounting and Lock for Vehicles. Andrew J. Smith, Los Angeles, Cal. Filed June 10, 1907. Serial No. 378,111.

In a device of the class described, a revoluble vehicle wheel mounted on a stationary axle; an odometer having a stationary and a revoluble member, said stationary member being rigidly mounted on said axle and said revoluble member being rotatively secured to the hub of said wheel; a cylindrical casing for said odometer bolted to the hub of said wheel, the heads of the bolts projecting inside of said casing; and a screw cap for said casing adapted to be locked thereon.

887,295. Automobile Tire. Wilhelm Weidling, Magdeburg, Germany. Filed April 29, 1907. Serial No. 370,862.

An automobile tire having a cover of leather, a strip of leather around the outer circumference thereof, clip like holders on the same at regular intervals, metal blocks in said holders other metal blocks laid between the holders, both kinds of metal blocks provided with grooves forming together continuous grooves running around the circumference, flexible endless bands in said grooves all as described and for the purpose set forth.

887,356. Ball Bearing. Jackson L. Straub, Lancaster, Pa., assignor of one-half to Ernst Sachs, Schweinfurt-on-the-Main, Germany. Filed Nov. 14, 1906. Serial No. 343,414.

1. In a ball bearing, concentric bearing members having confronting grooves or ball races, an annular series of balls runing therein, and a ball spaces or separator consisting of an undulated ring of sheet metal passing in and out between adjacent balls throughout the series and having the balls seated alternately in the pockets of the two sides of the ring formed by the concavities of the undulations themselves.

887,370. Carburetter. Alexander Winton and Harold B. Anderson, Cleveland, Ohio, assignors to The Winton Motor Carriage Company, Cleveland, Ohio. Filed June 23, 1906. Serial No. 323,117.

1. A carburetter, comprising means for maintaining a fluid level, an air passage having its lower wall projecting into said level to form a fluid holder, said wall provided with a fluid orifice in a plane below said fluid level, the orifice so restricted as to require spray action from said orifice within the air passage for increasing fluid supply to the increased volume of air passing therethrough.

887,413. Speed and Power Controlling Mechanism. Louis J. Monahan, Oshkosh, Wis., assignor of one-third to J. D. Termaat and one-third to M. L. Cottrill, Oshkock, Wis. Filed June 12, 1905. Serial No. 264,972.

1. In power transmitting mechanism, the combination of a rotatable power transmitting shaft, variable speed transmitting mechanisms loosely mounted on said shaft, clutch mechanisms rotatable with the shaft but slidable thereon, levers for effecting the engagement of the clutches with the respective variable speed transmitting mechanisms, cylinders arranged in suitable position with relation to the levers, and pistons connected to the levers and operated by an actuating medium admitted to and exhausted from the cylinders and adapted, when the piston of any cylinder is moved in one direction by the actuating medium, to cause the lever relating thereto to operate its clutch to effect a clutching engagement with its associated transmitting mechanism, and means, when the actuating medium is exhausted from the cylinder, to cause the lever

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and consequently the piston to return to normal position.

887,505. Air Cushion and Air Compressor for Automobiles and Other Vehicles. Wesley H. Nelson and Lee W. Galloway, Norwood, Colo. Filed May 27, 1907. Serial No. 375,950.

1. A vehicle having an air compressing apparatus comprising a plurality of double acting air pumps mounted upon the wheel axle and having the rods of their pistons connected to the bottom of the vehicle, and air reservoir fixed to said vehicle bottom, an arrangement of pipes having communication with the cylinders of said pumps opening above and below the pistons of said pumps, and means delivering air pressure from said arrangement of pipes to said air reservoir.

887,551. Vehicle Brake. Herbert M. Vanderbilt, Suffern, N. Y. Filed Aug. 1, 1906. Serial No. 328,753.

1. In a vehicle brake, clamping means adapted to engage the wheel of the vehicle when thrown in contact therewith, means attached to said clamping means designed to be drawn under the wheel when said clamping means and wheel are engaged, means for automatically returning said clamping means and the means attached thereto to an elevated position when the wheel is backed off of said last named means, and means then operating to automatically withdraw all of said means from the wheel.

887,562. Vehicle Wheel. Martin L. Williams, South Bend, Ind. Filed Dec. 26, 1905. Serial No. 293,291.

1. The combination with a vehicle axle and a terminal yoke upon the latter, of a spindle member pivotally connected with said yoke to oscillate upon an axis substantially perpendicular to the longitudinal axis of the axle, a wheel journaled upon said spindle member and a guard mounted to move with said spindle member during the oscillatory movement of the latter and overlapping the contiguous portion of said yoke which supports the spindle member, the overlapping portion of said yoke guard being internally spherical and the exterior of the overlapped portion of the yoke of corresponding shape.

887,567. Flexible Metallic Vehicle Wheel. Gustav Auberlin, U. S. Navy. Filed April 4, 1907. Serial No. 366,294.

1. A vehicle wheel comprising a hub, yielding spokes, and a rim composed of an inner and outer series of flexible cables and means for spacing them apart.

887,633. Internal Combustion Engine. Samuel H. Heginbottom, Frank H. Heginbottom, and Walter G. Heginbottom, Saginaw, Mich. Filed Dec. 2, 1907. Serial No. 404,667.

1. The combination with a cylinder having an inlet port and a piston adapted to open and close said port, of means for adjusting the cylinder and piston, one relative to the other to vary the amount of charge admitted to the cylinder through the inlet port.

887,684. Vehicle Wheel Tire. Henry H. Moore, Paris, France. Filed Sept. 22, 1906. Serial No. 335,732.

1. An elastic tire for vehicle wheels comprising, in combination with a felly; metallic sections inserted one in the other all around the felly; means for preventing the sections from falling out of said felly and springs, each working conjointly on two sections at a time and tending to elastically force the sections outwardly to the periphery of the felly, substantially as and for the purposes described.

887,179. Wind Shield. Charles F. Brandt and Walter R. Johnston, Columbus, Ohio. Filed April 26, 1907. Serial No. 370,510.

A wind shield comprising a lower sash, bracing means supporting the same, a channel secured at each side of said sash and being of greater width than the thickness of said sash, a channel member hinged upon the said channel, an upwardly extending flange formed along the upper edge of said sash, a second sash adapted to be positioned upon said first sash and having its lower side in engagement with said flange and its ends positioned in said hinged channel, a set screw mounted in said hinged channel member and adapted to force said second sash into secure engagement with a wall of said hinged channel member, said second sash being adapted to be moved laterally in said channel and lowered in said channel to the side of the first sash, said hinged channel member being adapted thereupon to be folded laterally to embrace the upper edges of said sashes, said set screw being adapted to be inserted at the same point of said hinged channel member to force said sashes into secure engagement.

887,180. Controller. Charles O. Barnes, Oswego, N. Y., assignor to Barnes Gear Company, Oswego, N. Y. Filed March 23, 1907. Serial No. 364,178.

1. The combination with a tubular support, controller rods mounted therein and a head secured to said support, of operating levers secured to the respective controller rods, and friction devices located between said levers and the head.

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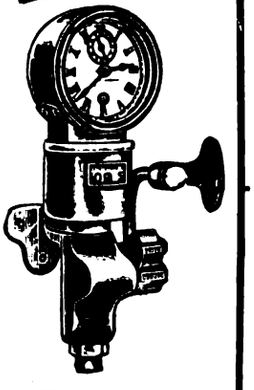
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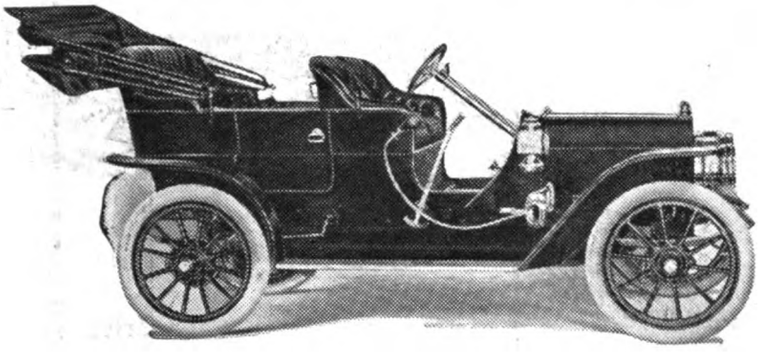
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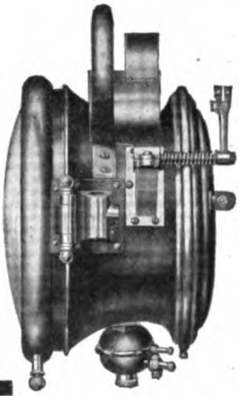
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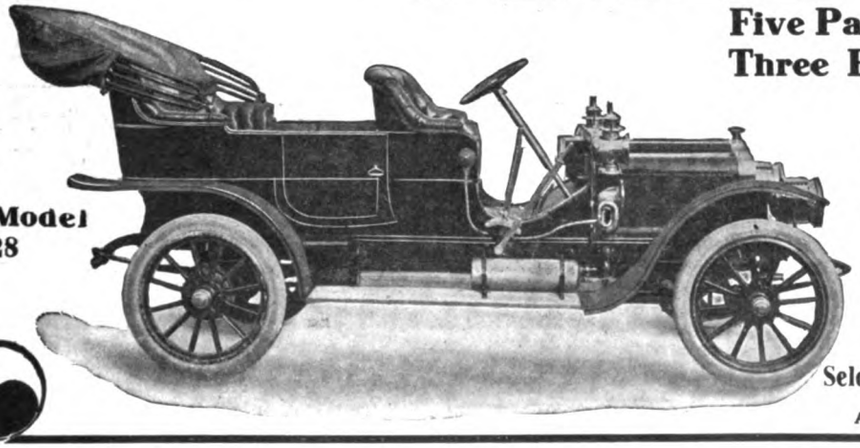


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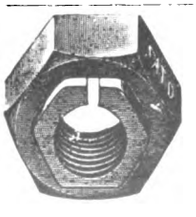


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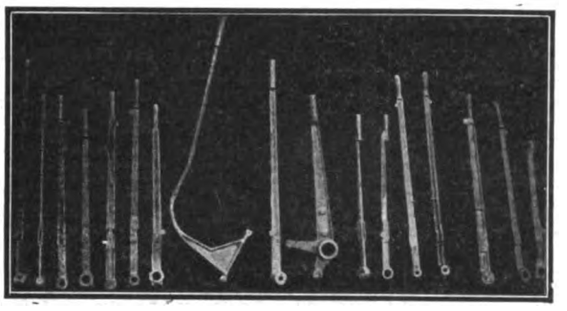
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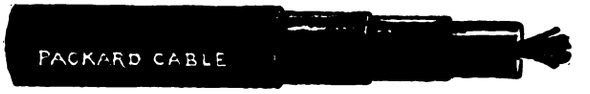
PARSONS' MANGANESE BRONZE LEVER CASTINGS



Sole Makers
THE WILLIAM CRAMP & SONS SHIP & ENGINE BUILDING COMPANY, - Philadelphia, Penna.

Packard Enameled IGNITION CABLE

Is Always of One Quality, THE BEST



If you want a cable with LOW FIRST COST you will be wasting time and postage by writing to us. If, however, you want a cable that is ABSOLUTELY GUARANTEED to be RELIABLE AND PERMANENT you cannot afford to overlook our product.

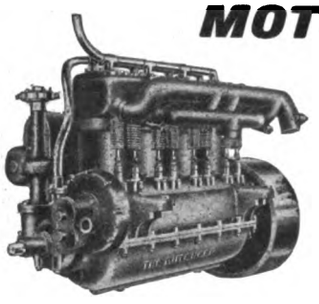
MADE ESPECIALLY FOR AUTOMOBILE AND MOTOR BOAT SERVICE.

GUARANTEED HEAT, GREASE, OIL AND WATER PROOF.

Samples and Prices on Request.

THE PACKARD ELECTRIC CO., - Warren, Ohio

MOTOR MAKERS



Indeed we are. We are still making motors for some of the most successful cars upon the market. Quality before price and both right.

Model "W" 1909
4 x 4, 25 h. p.

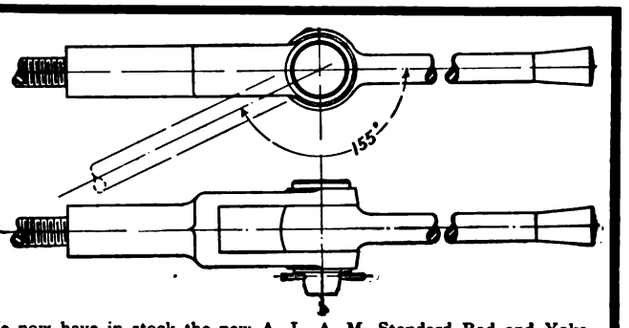
This motor is fully equipped with self contained oiling system, Magneto attachment, Fan and Carburetor. The same high grade material and workmanship that distinguishes our manufactured products will be found in this motor.

Prices reasonable. Write for catalog and full information.

THE WESTERN MOTOR CO., Logansport, Ind.

Manufacturers of "Rutenber" Motors, "Rutenber" Carburetors, and Supplies. Light Soft Gray Iron, Brass and Aluminum Castings.

A. L. A. M.



We now have in stock the new A. L. A. M. Standard Rod and Yoke Ends, both the adjustable and plain patterns, either blanks or milled. Send for new circular with full particulars.

THE BILLINGS & SPENCER CO., Hartford, Conn.

Another SPLITDORF Triumph!

The Arrow Head Hill Climbing Contest, July 13th, was won by a Knox car equipped with a

SPLITDORF High Tension Magneto

decisively defeating all other cars with foreign Magnetos.

Equip your own car with a SPLITDORF Magneto and realize perfect ignition.

C. F. SPLITDORF
Walton Avenue and 138th Street NEW YORK
Branch, 1679 Broadway

ALUMALOYD SHEETS

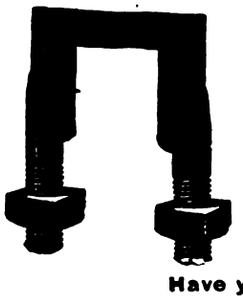
For Automobile Bodies, Dashes, Guards, Bonnets, Battery Boxes, Drip Pans, Mufflers, Etc.

STRONG—DURABLE
SCALELESS—RUSTLESS
SMOOTH—PAINT ADHERES FIRMLY

A Metal That's A Time and Money Saver

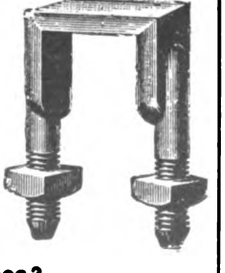
THE STARK ROLLING MILL COMPANY, CANTON, OHIO

FORGINGS for the AUTOMOBILE TRADE



Satisfaction Guaranteed

Thousands of our **Spring Clips** are now in use, having been supplied to the leading automobile manufacturers.



Have you secured our prices?

THE M. SEWARD SONS COMPANY, New Haven, Conn.

"RAJAH" SPARK PLUGS

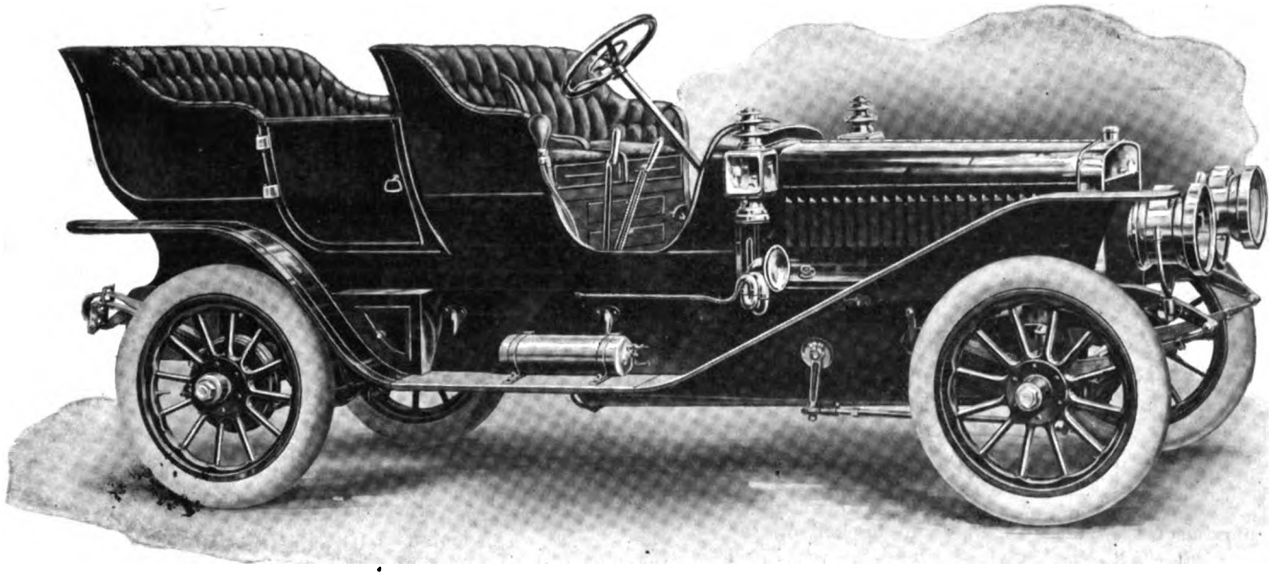
IGNITION ABSOLUTELY SURE

RAJAH AUTO SUPPLY COMPANY
BLOOMFIELD, NEW JERSEY, U. S. A.
(Watsessing Station, D., L. & W. R. R.)

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How Much Do You Pay to Keep Your Automobile Running?

Ten Winton Sixes Ran 65,687.4 Miles at an Upkeep Cost of $1.00 For Each 4,343 Miles



WINTON SIX

High-grade automobiles average 3,500 miles a season, and cost for upkeep—well, inquire of the man who pays the bills.

Ten Winton Sixes ran 65,687.4 miles in six months (up to June 30, 1908), and cost for upkeep all told $15.12½.

That's 25 cents per month per car.

Or $1.00 upkeep for each 4,343 miles.

These figures are proved by the sworn reports of the ten individual owners of these cars. Glad to send you their affidavits if you like.

Must be an exceptional car to do 4,343 miles on $1.00 upkeep.

Winton Six owners think so, because they pay the bills. So we are making the same exceptional car another year.

Same high-grade quality throughout. Same 48.6 horsepower, six-cylinder motor. Same Eisemann magneto. Same carburetor. Same system of lubrication (one Winton Six ran 242 miles on one quart of oil in the Long Island Endurance Test). Same cooling system. Same selective, sliding gears. Same superb multiple disc clutch. Same springs, axles, frame. Same safety auxiliary gasoline tank.

And the same self-starter. A starter that starts. Take your seat, press a button, and the motor runs.

The Winton Six carries its starting crank in the tool box, because it isn't needed elsewhere.

Own a Winton Six and end your humiliating work of cranking.

The five-passenger body is new, and the design is beautiful. Don't take the picture as proof, but see the car itself.

Then ride in the Winton Six. That's convincing. Quietest motor you ever saw. Sweeter than electricity, flexible as steam, and wonderful on hills. Makes hitherto bothersome grades ashamed of themselves. Cuts down gear changing, because it goes through traffic and up the hills on high gear. Saves gasoline, wear and tear, tires, and patience.

These are six-cylinder times.

And you haven't even the excuse of higher first cost to deny yourself the best there is in automobiles; because the Winton Six sells at $3,000, and represents a saving on first cost and on after-cost (upkeep)—a substantial saving that no business man, however wealthy, can afford to disregard.

Our complete and unusual catalogue is ready. Throws new light on six-cylinder cars, and is worth the time of any man or woman who reads it. Also let us send a booklet detailing our $2,500 prize plan to benefit owners.

Drop us a line to-day.

THE WINTON MOTOR CARRIAGE CO.
Cleveland, Ohio

Winton branch houses in New York, Boston, Philadelphia, Baltimore, Pittsburg, Detroit, Chicago, Minneapolis, Seattle and San Francisco. Winton agencies in all important places.

$3000 is the price of the 48.6 h. p. Winton Six, the 4,343-Miles-on-$1-upkeep car. For buyers who want more power, we are making a 60 h. p. Winton Six, with 7-passenger body and four-speed transmission. This car will be ready for early fall delivery and will sell at $4500

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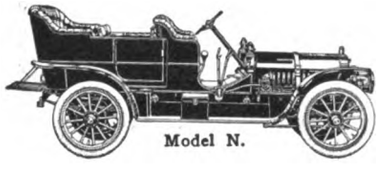
Empire Tires
WEAR LONGEST

EMPIRE AUTOMOBILE TIRE COMPANY, - TRENTON, N. J.

New York, 148 Chambers St., and Broadway and 73d St.; Boston, 292 Devonshire St.; Buffalo, 724 Main St.; Fobes Auto Supply Co., Portland, Ore.; Fobes Auto Supply Co., Seattle, Wash.; Waite Auto Supply Co., Providence, R. I.; Chicago, 1301 Michigan Ave.; Atlanta, Ga., Dunham Rubber Co.; Denver Auto Goods Co., Denver, Colo; Penn Auto Supply Co., Philadelphia, Pa.; Savell Rubber Co., Jacksonville, Fla.; Empire Tire & Rubber Co., Minneapolis, Minn.

National
Motor Cars

afford the purchaser the very best value to be had on the market at present. All Nationals are equipped with **Ball Bearings throughout, including the motor.**


Model N.

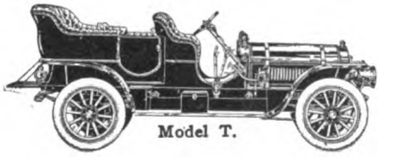
Model K—4 cyl., 4⅞ x 5
$3,500

Model N—4 cyl., 5x5
$3,700

All Nationals have two complete systems of ignition.

Model R - 6 cyl., 4½x4¾
$4,200

Model T—6 cyl., 5x5
$5,000


Model T.

Write for particulars and our Booklet "What Owners Say About Their Nationals."

National Motor Vehicle Co.
1007 E. 22d Street INDIANAPOLIS, IND.

WHITLOCK

With our unrivalled factory equipment we are prepared to give you prices and deliveries on

AUTOMOBILE RADIATORS
AND
MOTOR PIPE CONNECTIONS

which will necessarily command your attention.

The Whitlock Coil Pipe Co.
HARTFORD, CONN.

THE OLDSMOBILE

is not only the **World's Best Car,** but one of its oldest and most famous. It gives prestige to both owners and agents.

Model M	Model MR	Model Z
Touring Car, Fully Equipped,	"Flying Roadster," Fully Equipped,	6-Cylinder, 130-inch Wheel Base,
$2,750	$2,750	$4,200

OLDS MOTOR WORKS, Lansing, Mich., U. S. A.
Members A. L. A. M.

Canadian Trade supplied from Oldsmobile Co. of Canada, Toronto, Ontario.

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Large Sales

make it possible for us to import **THE CELEBRATED BRAMPTON CHAINS** from **ENGLAND** (paying freight and duty), and sell them at the same price at which the several other automobile chains are sold to manufacturers, jobbers, dealers and users.

THE BRAMPTON MOTOR CHAIN



All side plates on both sides on the Brampton Chain are stamped **"BRAMPTON."**

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement.

THE BRAMPTON CHAIN is made of helf-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like **THE CELEBRATED BRAMPTON CHAIN** because some of the other chain makers began to copy the design and shape of the **BRAMPTON CHAIN** links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the **BRAMPTON CHAIN** than ever before. These chains somewhat resemble the **BRAMPTON** in appearance, but the manufacturers of such chains have been unable to copy the material—self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the **BRAMPTON MOTOR CHAIN** in the past ten years.—**"ENUF SED."**

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the **BRAMPTON FILLS THE BILL,** and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size—as follows:

CHAINS TO FIT AMERICAN CARS

1 x ⅜ x 9-16—1 x ½ x ⅝—1 x ½ x 9-16 roller	$1.00 per foot.
1 x ⅝ x ⅝ roller	1.17 "
1¼ x ½ x ⅝—1¼ x ⅝ x ⅝—1¼ x ⅝ x ¾ roller	1.25 "

We also carry in stock the **BRAMPTON CHAINS** to fit Foreign Cars—Mercedes, Panhard, Martini, Fiat, etc.

Your 1908 Car

You can have the new car that you order fitted with the **CELEBRATED BRAMPTON CHAIN** if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.

Agents wanted in unoccupied territory. Catalog on request.

We are Sole American Agents for **BRAMPTON CHAINS,** and they cannot be bought from anyone else except through our Agents.

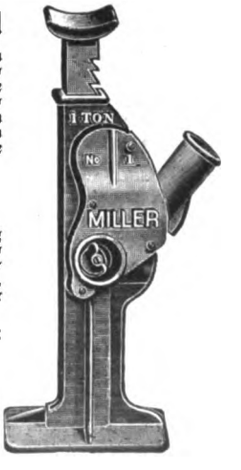


Pan-American Automobile Body Polish

Pan-American Polish was awarded the Bronze Medal at the Louisiana Purchase Exposition at St. Louis, 1904. This polish has been carefully prepared for the Automobile trade. It is also applicable to the carriage trade, or can be used on any varnished furniture or woodwork of any kind. It will remove stains, cover scratches; leaves the automobile with its original new lustre, without being sticky or greasy. Furnished in eight-ounce bottles. Guaranteed not to harm the finest varnish. For sale by all Automobile Dealers. Price 60 cents per bottle.

The Miller Automobile Jack

The Miller Automobile Jack is a quick acting, automatic lowering jack, designed especially for automobile use, and is adapted to the factory or garage as well as to be carried as a part of the equipment on motor cars. It is high-grade and one of the finest finished jacks on the market. We guarantee this jack for twelve months. The list price of the Miller Jack, $3.50 each.



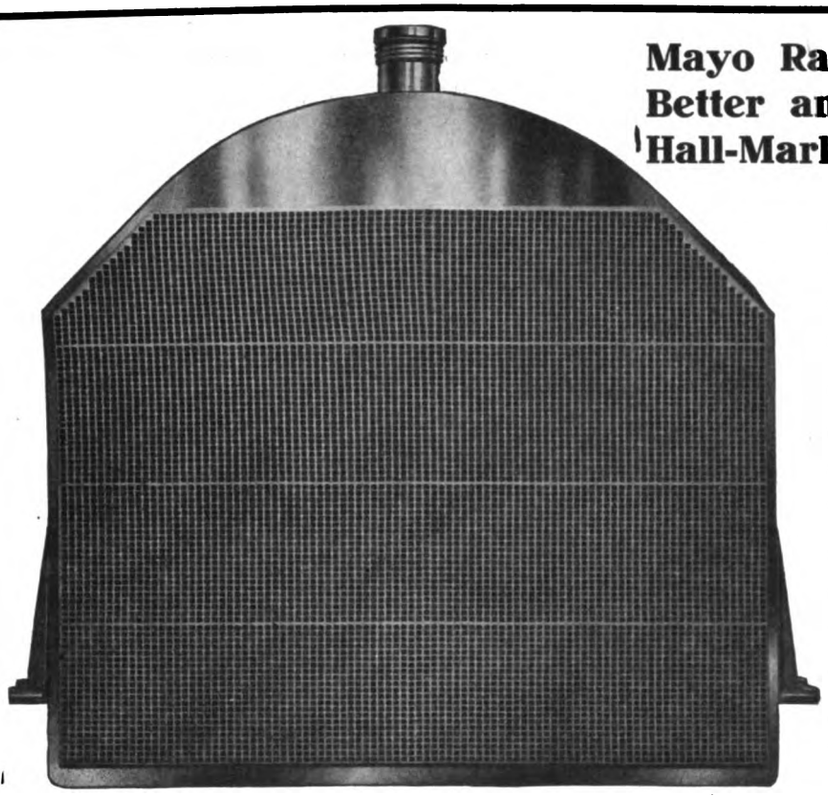
CHAS. E. MILLER

Manufacturer, Jobber, Exporter and Importer

Home Office: 97-99-101 Reade Street, New York

Branches: 54th St. and 8th Ave., New York. 202-204 Columbus Ave., Boston, Mass. 318-320 N. Broad St., Philadelphia, Pa. 227½-229 Jefferson Ave., Detroit. 1829 Euclid Ave., Cleveland, O. 824 Main St., Buffalo. 1392 Bedford Ave., Brooklyn, N. Y.

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Mayo Radiators Make a Good Car Better and Their Use on a Car is a Hall-Mark of Quality.

¶ Mayo Radiators are made in a quality shop. In their construction no expense is spared, no crude methods obtain. In their use complete satisfaction results.

¶ Mayo Radiators perform their functions well under all conditions—and conditions at times are exacting. It is at just such times that Mayo quality asserts itself.

¶ The engineer can eliminate possible radiator troubles from his calculations by the adoption of the best possible radiator. The test of years and use has proved that we make it.

¶ Our capacity limit on new contracts is rapidly being reached.

MAYO RADIATOR COMPANY, New Haven, Conn.

BEAR IN MIND

that in eight years there have been five models of Stevens-Duryea Cars. Worked out to perfection before being placed on the market — their mechanical features distinguished for being ahead of the times and because of common sense construction. Contrast the evolution of five unqualifiedly successful Stevens-Duryea Models with the every few months "improvement," radical changes, etc., in the output of some motor factories.

WHEN YOU BUY A STEVENS-DURYEA CAR YOU SECURE A MINIMUM OF UPKEEP EXPENSE AND A MAXIMUM OF PEACE OF MIND.

WRITE FOR DESCRIPTIVE MATTER

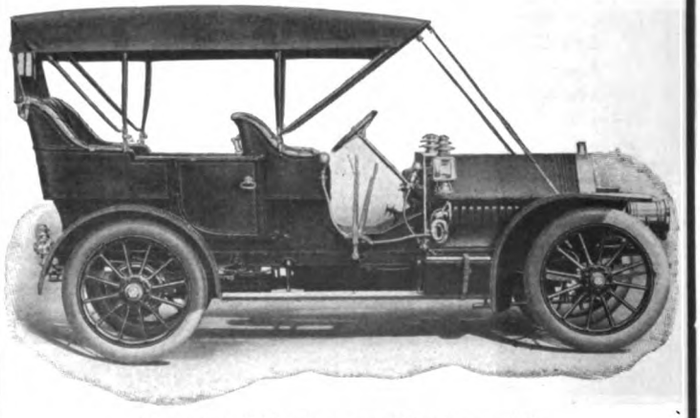
STEVENS-DURYEA CO.

690 Main Street, Chicopee Falls, Mass., U. S. A.

Member A. L. A. M.

THE "JEWEL 40"

THE "NON-SKIDDING" CAR



Compare following specifications with other cars at $3,000.

36-inch Wheels. 36x4-inch Diamond, Hartford, Michelin, or Goodyear Tires. 120-inch Wheel Base. 2 Independent Ignition systems—Bosch Magneto, Connecticut Coil and Storage Battery. 40-45 H. P. 4-cylinder engine. Timken axles. Hedgeland Equalizer or Non-Skidding Device. Seven Passenger Body.

Write for catalogue. Good proposition for dealers.

THE FOREST CITY MOTOR CAR COMPANY

234 Walnut Street, - Massillon, Ohio, U. S. A.

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WAITING TO CHECK OUT AT BUFFALO

Studebaker cars in the Glidden tour received more favorable comment than any other contestant. Did you read the story of their performance in the daily press?

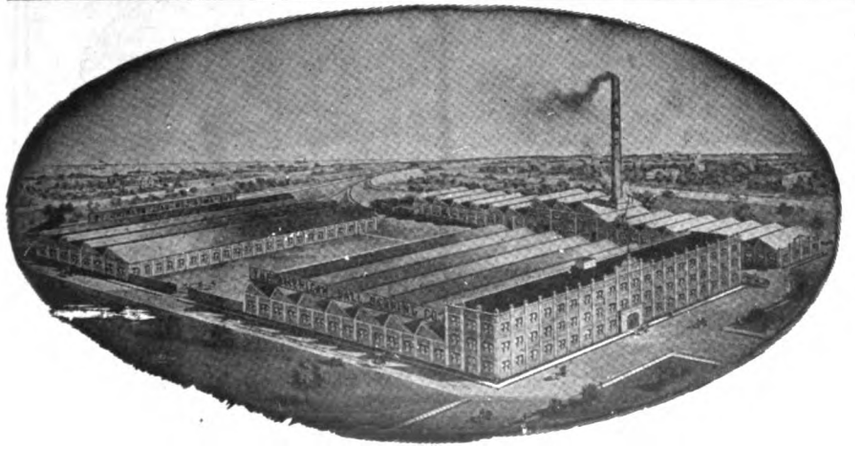
Each successive endurance event simply serves to demonstrate more forcibly than before the extraordinary endurance of these sturdy cars.

Studebaker Automobile Company

General Office, Cleveland, Ohio. Factory at South Bend, Ind.

BRANCHES:

BOSTON, MASS.—Studebaker Bros. Co. of New York, 1020 Boylston St. (Sub Branch).
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DENVER, COL.—Studebaker Automobile Co., 1536 Broadway.
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NEW YORK CITY—Studebaker Bros. Co. of New York, Broadway and 48th St.
PHILADELPHIA, PA.—Studebaker Bros. Co. of New York, 330 North Broad St. (Sub Branch)
PORTLAND, ORE.—Studebaker Bros. Co. Northwest, 330-336 East Morrison St.
SALT LAKE CITY, UTAH—Studebaker Bros. Co. of Utah, 157 State St.
SAN FRANCISCO, CAL.—Studebaker Bros. Co. of California, Mission and Fremont Sts.
SEATTLE, WASH.—Studebaker Bros Co. Northwest, 308 First Ave. South (Sub Branch)
SELLING AGENCY—Lord Motor Car Co., 1251 Main St., Los Angeles, Cal.



The output of complete Front and Rear Automobile Axles of this plant exceeds the capacity of all competition combined.

THE American Ball-Bearing Co.

L. S. & M. S. Ry. & Edgwater Park

CLEVELAND, OHIO, U.S.A.

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AJAX WRAPPED TREAD TIRES

After all is said
and done,
no matter how
glowing
the promises of
tire makers,
the only thing you have
to tie to
is
the word
of the dealer who
sells you.

If the tire
goes bad
you have the privilege
of carrying on
one end
of a controversy
with the factory—
that's all.

The tire maker
makes good—or doesn't
as he sees fit.

There's one exception—
AJAX—

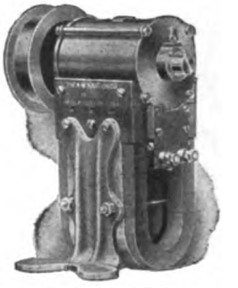
Every AJAX tire
is guaranteed
for 5000 miles.

Write for copy of Guarantee, stating what size tire you are using.
Address Dept. A.

AJAX-GRIEB RUBBER COMPANY
GENERAL OFFICES: N. E. Cor. 57th St. and Broadway, New York.
Factories: Trenton, N. J.
BRANCHES:
New York, 1776 Broadway — Denver, 1529 Cleveland Place
Boston, 819-a Boylston St. — Seattle, 1102 Broadway
Chicago, 1418 Michigan Ave. — San Francisco, 460 Golden Gate Ave.
Detroit, 743 Woodward Ave. — Los Angeles, 1040 S. Main St.
Agents in all large cities.

THE K-W MAGNETO

Model F



Has bracket as shown for attaching to frame of car. Made especially

For Ford Runabouts

Good on any car.

High in Quality—Low in Cost
Perfectly Reliable—Easy to Apply
More Power—Less Fuel

Price $35.00

It starts the engine easily without batteries and runs it faster and better than any battery because it gives a hotter spark. They run in ball bearings and have no moving wires or brushes to give trouble and wear out. They are made to last and they do last. They are the cheapest that is good and there is nothing better at any price.

We also make high grade Coils and Plugs and the K-W Master Vibrator. Get our catalogue.

THE K-W IGNITION COMPANY
38 Power Avenue, CLEVELAND, OHIO

REPRESENTATIVES:
A. H. GREEN & CO., 1686 Broadway, New York.
W. J. FORBES, 220 Congress St., Boston, Mass.

The Invincible Schacht Auto Runabout



MODEL K

16 H. P. Friction Drive. Gearless and Clutchless. Roller Bearings Throughout. High Rubber-Tired Wheels. Long Concord Springs. The simplest, most practical, efficient and economical car ever built. Recognizes no hills or bad roads and will go anywhere that wheels will travel. Most Popular and "Talked-of" car since the advent of the automobile. Write to-day for catalogue and agency proposition.

Address M. HARRIS, Sales Manager,

THE SCHACHT MFC. CO., Cincinnati, O.

IOWA DISTRIBUTORS—Campbell & Earl, Fairfield, Ia.
NEBRASKA DISTRIBUTORS—Central Impt. Co., Omaha, Neb.

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DOW TUBES Are the Most Economical

(The Best Tubes Ever Manufactured)

The Faithful Record Given Below by C. C. Scrivener, Driver for Oakleigh Thorne, Esq., of New York, Shows that ONE DOW TUBE SAVED $127.49 IN 4½ MONTHS.

Dow Tire Co., 2000 Broadway, New York City. July 22, 1908.

Gentlemen—Having had up to date such fine service out of your "Dow" tubes on the Packard Runabout, I consider it only fair to tell you and the public how good they really are. One year ago, on July 17, 1907, I put in four of your tubes.

On October 5, 1907, the right rear tube, owing to a defective valve, had to be removed. The left rear was not removed until a few days ago on account of a bad blowout, the right front a few days later blew out, both owing, I believe, to old shoes. The left front is still doing service and is as good as ever.

Now comparing the rear shoes and tubes. After removing the right one on October 5, 1907, I did not put in a "Dow," but took it as a good chance to compare plain tubes with the "Dow." In this shoe I used in four months and two weeks eight tubes and three shoes against one "Dow" tube in two shoes.

As soon as our plain tubes in the other two cars are used up I intend to put in "Dow" tubes all around; their showing on the runabout under all conditions of roads, heat and cold, is entirely satisfactory. As to ordinary punctures, I don't know what they are any more. Nothing but a bad blowout will finish a "Dow" tube. Even a four-inch cut has not caused me any trouble on the road. I rode a shoe with such a cut containing a "Dow" tube for three weeks, then changed shoes just because it was the right thing to do.

I will cheerfully tell any one who wishes to know all I know about your tube.

Trusting you have many others as pleased as I am, I remain,

Respectfully yours,
C. C. SCRIVENER, Driver for Oakleigh Thorne, Esq., New York.

ONE YEAR'S CONSTANT SERVICE IN THE BOSTON FIRE DEPARTMENT.

Headquarters Fire Department, City of Boston, Bristol Street,

Dow Tire Co., New York, N. Y. Boston, July 20, 1908.

Gentlemen—Having used the Dow Non-Deflation Tubes since August 19, 1907, on the automobile used by Chief Mullen of this city fire department in his response to alarms of fire, I feel that, in return for the excellent results received from these tubes, I ought to inform you of same. Several persons have inquired of me as to their merits, and I have always spoken in the highest terms of them, but never felt that I could write you confirming my statements until such time as they had been in use for about a year.

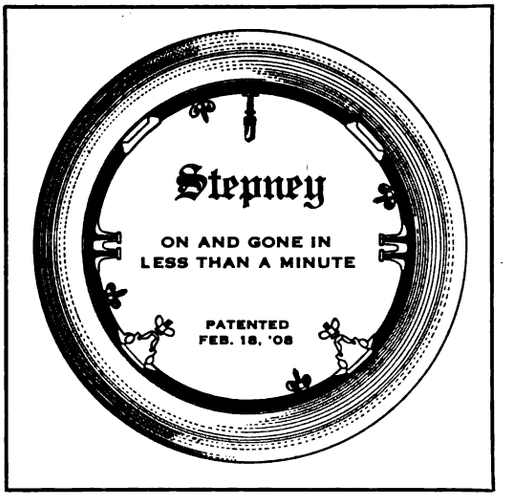
We have given them all kinds of tests, and will truthfully say that they have withstood all punctures, and with the exception of "blow-outs," which are liable to occur with any type of inner tube, they have given excellent satisfaction.

Trusting this letter may be of benefit to you, I remain,

Yours very truly,
(Signed) JOSEPH A. WEBBER, Lieut., Aide to Chief.

ALL LIVE DEALERS SELL DOW NON-DEFLATION TUBES

Dow Tire Company, 2000 Broadway, New York
889 Boylston Street, Boston. 506-8 N. Broad Street, Philadelphia.



"Off Again—On Again—Gone Again"
IN LESS THAN A MINUTE

STEPNEY
Spare Motor Wheel

The only cure for tire troubles. Get one and be up-to-date. There is only one genuine spare wheel—"The Stepney." (Beware of imitations.)

DESCRIPTION—The Stepney Spare Motor Wheel is a device the adoption of which will serve to obviate the tire troubles experienced in motoring. It is simply a standard clincher steel rim, without hub or spokes, having four clamps (two stationary and two adjustable) for securing it to the rim of the injured wheel. The Stepney is intended for your Spare Tire to be carried upon it fully inflated and ready for use. Any standard clincher tire can be used.

Write for Catalog B, explaining and illustrating the Stepney Spare Wheel in each and every detail. A postal card will do.

SPARE MOTOR WHEEL OF AMERICA, Ltd., Main Office: 236 Michigan Ave. Chicago

OUR AGENTS IN THE DIFFERENT CITIES:

American Stepney Spare Wheel Co....341 Fifth Avenue, New York, N. Y.
Spare Motor Wheel of Cleveland.....1032 Euclid Ave., Cleveland, Ohio.
T. H. Walker & Co.....239 Jefferson Ave., Detroit, Mich.
T. E. Burnside.....140 E. Spring St., Columbus, Ohio.
Coughlin & Davis.....8th & Walnut Sts., Cincinnati, Ohio.
Fisher Auto Co.....330 No. Illinois St., Indianapolis, Ind.
Kentucky Automobile Co.....1049 Third Ave., Louisville, Ky.
Neustadt Auto & Supply Co.....3948 Olive St., St. Louis, Mo.
Becker Manufacturers' Agency,
State of Wisconsin.....Iron Block, Milwaukee, Wis.
Wm. H. Bartlett.....1528 Broadway, Denver, Colo.
Consolidated Wagon & Machine Co.....Salt Lake City, Utah
Phoenix Rubber Co.....San Francisco, Cal.
Rollin Van Houton.....Los Angeles, Cal.
Pence Automobile Co.....Minneapolis, Minn.

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The Mitchell

The car you can afford to buy and KEEP

$2000

The Mitchell appeals **to you,** Mr. Business Man, because it gives you just as much **pleasure**—just as much and as **good service,** is just as **stylish** and neatly **finished** as any car, and doesn't cost you a small fortune to **buy**—or **keep.**

The Mitchell at $2,000 is the standard automobile value.

Prove it—Mr. Business Man.

Get **demonstrations** of the extravagantly high-priced cars—and then try the **Mitchell** over the **same** route.

The Mitchell agent will be glad to take you out if you're interested for 50 or 100 miles any time you say. Call him up (it places you under no obligation)—**Challenge** him—

Just say, "Show Me."

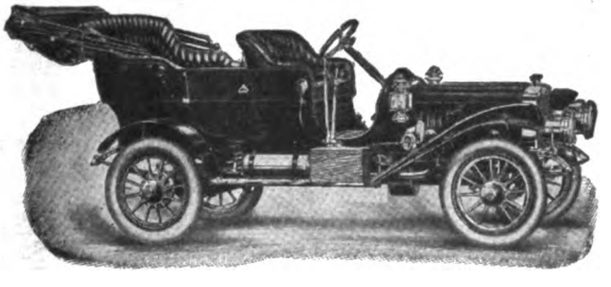
He'll come around with a car and show you a "silent argument" that will get your order or he will retire without a word.

Our catalog No. 18 is fully descriptive of the Mitchell 1908 Touring Car $2,000—Limousine $2,800—Roadster $1,250, and Runabout $1,000. Write for it—we'll also send letters from users, proving the Mitchell to be the most economical car to **operate.**

Mitchell Motor Car Co., 285 Mitchell Street, Racine, Wis.

Standard Manufacturers, A. M. C. M. A.

This car—shown here—35 h. p., 4 cyl., speed 50 miles, finished in Mitchell blue—price $2000—is excellent throughout—the car you ought to have at the price you ought to pay.



THE INCOMPARABLE WHITE

THE CAR FOR SERVICE



Write for White Bulletin No. 15

The above illustration is reproduced from the new White Bulletin No. 15, an attractive little booklet devoted to some of the more important automobile events of the last few months. The leading articles are "The New Road Record Between San Francisco and Los Angeles," "The Fort George Hill Climb," "The Quaker City Reliability Contest" and "The Harrisburg Reliability Contest." In addition to these four detailed accounts of White victories, brief space is given to the numerous minor contests in which the White has carried off first honors; also, the activities of private owners of White cars and the doings of "Government White Steamers" in this and other countries receive attention. We believe that you will find this booklet of interest.

A POSTAL TO US BRINGS A COPY

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Model 31, Price $1,400

Other Models, $1,200 to $2,500

YOU can do all kinds of work with this car as a handy Runabout without the tonneau; then put the tonneau on and take your family or friends for a ride in a roomy Five-Passenger Touring Car.

Many exclusive features make it the most remarkable two-cylinder car in this country selling at $1,400.

The powerful engine makes it a hill climber; the long wheel and full elliptic springs provide great comfort; you glide over rough roads without a jar.

It is easy to care for and always clean because of the few moving parts and the enclosed power plant, impervious to dirt, mud and water, and oil tight with proper lubrication.

Immediate access to every working part is provided. The low cost of maintenance is due to simple construction, small fuel and oil consumption and protection of parts against injurious road material.

THE CAR OF STEADY SERVICE

A Postal will bring you the facts.

Please write your name and address and "Model 31" on a postal and mail to us today. You will not obligate yourself in the least

THOMAS B. JEFFERY & COMPANY, Main Office and Factory. **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, August 6, 1908. No. 19

WANT A BETTER PRICE ON SPACE

Motor and Accessory Manufacturers Meet at Atlantic City—Would Force Concessions at Chicago Show.

As the result of a two-day session at Atlantic City, which was held on Thursday and Friday of last week, July 30 and 31, the Motor and Accessory Manufacturers, Inc., has as a body decided to take the stand that its members will not exhibit at the Chicago show unless the management grants a lower rate for space or gives a larger rebate. It will be recalled that last year, after much delicate negotiation, the association was able to report to its members that it had obtained a rebate of 15 cents a square foot, a victory in economy which was somewhat neutralized when the management later announced the price of space and disclosed that it had been raised just 15 cents a square foot, from 75 cents to 90 cents. Comparing the price at Chicago with the net prices for space at the New York shows, where the members of the M. A. M. through their association get substantial discounts and percentage rebates, it is thought by the accessory people that the Windy City figure is too high and they therefore decided upon an ultimatum to reduce it. The association got about $9,000 in rebates from the New York shows last season, and only about $2,000 from the Chicago show.

The show committee of the M. A. M., consisting of Messrs. Raymond, White, Post, Byrne and Castle, held its session on Thursday and prepared its report for presentation the next day to the main body of the membership. The board of directors also had a meeting to transact routine business. Attorneys Allen and Graham, of the National Grange, appeared in behalf of that body to interest the M. A. M. in contributing financially to the good roads movement with which the Grange is identified. Decision was reserved as to what support, if any, would be given by the association as a body.

On Friday the report of the show committee, recommending that the members refuse to exhibit at Chicago unless the rate were lowered, was presented to the consideration of the association as a whole, and was adopted almost unanimously. Another feature of the day was a speech by W. B. Lasher, of the Weed Chain Tire Grip Co., on the subject of price cutting and its evils. Lasher appealed for vigorous action on the part of the association against price cutters. Suggestions were made as to the compiling of a list of bona-fide jobbers, but no action was taken in this direction. The Hedgeland Mfg. Co., of Canton, O., was admitted to membership. About 40 members or less than one-fourth of the total, attended the meeting.

Weed and Parsons Sue on Non-Skids.

Injunction proceedings have been brought by the Weed Chain Tire Grip Co. of New York, and the Parsons Non-Skid Co., Ltd., of London, England, against the Todd Rubber Co., of New Haven, Conn., to restrain it from marketing tire chains. The action was brought in the United States court in Hartford, Conn., and infringements against the patents of both plaintiffs are alleged.

Shanks to be Stearns' Sales Manager.

Charles B. Shanks, formerly advertising and sales manager of the Winton Motor Carriage Co., of Cleveland, is to be the sales manager of the F. B. Stearns Co., also of Cleveland. Upon resigning from the Winton company, Shanks took the northern Ohio agency for the Chalmers-Detroit which he is running as an individual enterprise.

Close Aurora Plant for Creditors.

The liabilities of the Aurora Motor Works, of Aurora, Ill., against whom a petition in bankruptcy has been filed, are estimated at $30,000 while the assets are calculated at $10,000. The constable has closed the factory in behalf of employes who have wage claims aggregating about $900.

AGREE ON ONE SHOW AT CHICAGO

Threatened "Independent" Project Abandoned—Accessory Makers Hesitate to Demand Price Concession.

Chicago show matters had a clarification on Wednesday so far as the car exhibitors were concerned, and the grievances of the American Motor Car Manufacturers Association were all placated so that there will be no "independent" or second Chicago show; but the demands of the Motor and Accessory Manufacturers, Inc., for more price concessions and the unwillingness of the show management to grant them has precipitated a real "situation."

At the meeting of the show committee of the National Association of Automobile Manufacturers the ultimatum of the accessory makers to the effect that they would refuse to exhibit at Chicago unless given a better price than 90 cents per square foot with a 15-cent rebate, was not officially delivered, although D. J. Post, of the accessory makers' show committee, was present with a copy of the M. A. M. Atlantic City resolution, ready to be presented at the proper time. Upon seeing the committee from the American Motor Car Manufacturers Association about to go into session with the N. A. A. M. show committee, Post refrained from any definite action in the matter until it would become clear as to whether the differences between the various bodies of car makers would be patched up and whether there was a likelihood of an "independent" Chicago show. The official proceedings of the day, however, went their course without the ultimatum being offered.

An informal gathering later, gave Post the opportunity to express the position taken by the Motor and Accessory people and to deliver their ultimatum in an unofficial way and, further, to hint at a show of their own. In an equally unofficial way it transpired that the Chicago management

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is indifferent to the ultimatum, the N. A. A. M. show committee having at a meeting some little time ago decided that the price given the M. A. M. was the lowest that would be made, and that the space could readily be sold to other exhibitors at a greater profit. Not only are jobbers and unattached accessory makers anxious for the space, but the manufacturers of motorcycles are clamoring for an opportunity to exhibit. The withholding of the ultimatum on the part of the M. A. M. still gives that body the opportunity to recede with good grace from the position it decided at Atlantic City to take, but in case its demands are pushed there is every prospect of a clash.

A new method of show allotment was agreed to as being satisfactory, by Messrs. Benjamin Briscoe, H. O. Smith, R. M. Owen, J. B. Bartholomew, and General Manager Alfred Reeves, of the A. M. C. M. A., in conference with the show committee. The exhibitors are to be divided into classes, the considerations of preference being membership in the N. A. A. M., seniority in the number of earlier shows participated in, membership in either the A. L. A. M. or the A. M. C. M. A., etc. All the acts and agreements of the show committee were later in the day approved by the executive committee of the N. A. A. M., the meeting being attended by S. T. Davis, Jr., W. T. White, Charles Clifton, Thomas Henderson, W. E. Metzger, Benjamin Briscoe, H. O. Smith, L. H. Kittridge, R. D. Chapin, W. M. Lewis, and S. A. Miles, and as members of special committees, M. J. Budlong and G. W. Bennett.

A special committee presented a report and samples of a standard rim which has been pronounced satisfactory, and recommended its adoption subject to satisfactory commercial details. Sanctions were granted for the "Independent" show at Grand Central Palace the first week in January and for the Licensed show at Madison Square Garden the third week in January.

Velie Vehicle's Ambitious Plans.

Contracts for the reinforced concrete factory of the new Velie Motor Vehicle Co., of Moline, Ill., have been let. It is announced that the capacity of the plant will be 5,000 cars a year, the leader to be a buggy type machine with modifications that will in many respects make it resemble the more usual automobile models. Major L. M. Fuller will be factory manager, and considerable factory talent will be drawn from the Velie Carriage Co.

Death of Panhard, the Pioneer.

Rene Panhard, organizer of the Panhard-Levassor Company, died last week. He was 67 years of age, and although he had retired from active business management was still on the board of directors of his company. His last public apearance was at the dedication of the monument erected in Paris to Levassor, his former partner.

TIRE MAKERS HOLD A CONFERENCE

Lively Session Over Plan to Reduce Tire Cost to the Consumer—Discuss Uniform Discounts.

Those tire makers who are members of the Motor and Accessory Manufacturers, Inc., held a meeting at the Waldorf-Astoria, New York, on Saturday last, to hear the report on the results of a very remarkable letter which, over their signatures, had been mailed to six thousand automobile and accessory dealers. The letter asked expressions of opinion from the dealers as to the advisability of a reduction of list prices and discounts on tires in order to minimize if not eliminate the evils of price cutting, and at the same time urged the dealers' co-operation to that end. The tire makers were to have listened to the returns from this letter at Atlantic City, in connection with the meeting of the main body, but it was later thought advisable to hold a separate and special meeting in New York because of the importance of the subject.

The session at the Waldorf was both interesting and animated. Preceding the roll call, Chairman H. E. Raymond amiably remarked on the presence of a Motor World representative in the corridor downstairs, adding that those present would all doubtless be able to read a report of the meeting in detail in the Motor World, as usual, and from then on there was not a dull moment. To the 6,000 letters sent out, replies had been received from less than 1,200, or in exact figures, just 18.4 per cent. Of these replies an overwhelming majority were heartily in favor of the proposed plan, which involves in no way anything that could be termed a price agreement, in the usual sense, as each concern is left perfectly free to set its own list prices, though in all probability all list prices would be lowered under the proposed scheme.

The main idea is to reduce the cost of tire up-keep to the automobile owner, and by a uniform discount of some such slim figure as 15 per cent., make impossible the thriving business of cut price concerns and divert the renewal business to the legitimate dealer to whom it properly belongs. To make such a plan sucessful the support of a majority of the dealers is, of course, essential.

In considering the responses received by mail, the point was made that whereas the dealers in favor of the plan would naturally say so, those who were lukewarm or distrustful, if not openly hostile, would hesitate about committing themselves in writing and the silence of so large a proportion would seem to make their attitude open to question. On the other hand, it was urged that the assurances of support and co-operation from the Association of Licensed Automobile Manufacturers and from the American Motor Car Manufacturers' Association, at whose request the matter of reducing tire cost to the consumer was first taken up, were a sufficient guarantee of the favorable attitude of the majority of the dealers.

After a letter from a prominent automobile manufacturer had been read, commending the proposed action and setting forth the claims of the reputable dealers and the poor consumers, and while the discussion was at its height, one skeptical member of the assemblage, "foolish like a fox," slipped quietly from the room and used the telephone. He shortly marched back to the meeting again and announced, somewhat to the discomfort of the chairman, that he had just called up the local branch house of the solicitous maker and without being known had received quotations with a big discount on two well known makes of tires, one of which was—well, a smile went the rounds when it was mentioned.

On the proposition that lists and discounts should be lowered and the dealers thereby protected and the consumers benefited, all the makers were apparently in perfect accord. But when it came to a matter of absolutely uniform discounts, things grew very lively. It was the smaller makers and the late comers in the field who questioned the wisdom of "tying themselves up" in a position which appeared to them to place them at a disadvantage. "Some tires are demanded; others have to be sold," was the gist of the argument, and it was maintained that discounts should permit the making of special inducements, if necessary.

Having struck this obstruction, consisting of the opposition of some of the makers to an absolutely uniform discount feature, the plan was not ripe for immediate adoption, and so it was agreed to carry it over to another meeting. This latter is to be held in Cleveland on August 11, at which time the tire makers will buckle down and see what can actually be accomplished.

Dale Leaves a Large Estate.

The will of Charles H. Dale, the deceased president of the Rubber Goods Mfg. Co., has been filed in the Westchester county surrogate's office, at White Plains, N. Y. It lists an estate of $2,500,000, all of which goes to his wife, Jennie L. Dale. No bequests are left to his relatives or employes. It is said that he gave considerable property to them before he died.

Grossman Goes in for Himself.

Joseph Grossman, for the past two years or more the manager and treasurer of the National Sales Corporation, has resigned. He will go into business for himself.

Hopkins Resigns from St. Louis Car.

L. A. Hopkins, manager of the St. Louis Car Automobile Company, of New York, has resigned his position. The resignation takes effect immediately.

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YEAR'S EXPORT TOTAL DECLINES

June Completes the Fiscal Twelve Months with a Slight Loss—The Record in Detail.

June completing the fiscal year of the export record, the figures for the twelve months show that $5,277,847 in American cars and parts were exported, as against $5,502,241 for the preceding year. The number of machines sent out during the period was 2,477 as against 2,862 for the year ending June, 1907, the sums represented by the cars alone being respectively $4,656,991 as against $4,890,886. The shipment of parts was a little heavier for the year just past, however, the sum being $620,856 as against $611,355.

For the whole year through the United Kingdom proved the best customer for American cars and parts, its purchases amounting to $1,796,509 as against $1,530,304 for the preceding year. British North America, the next best customer, shows a decline, its total being $951,386 as against $1,175,334. France, "the home of the automobile," shows an increasing inclination to buy American cars, being third on the list with a year's total of $692,365 as against $512,524. Germany, too, shows an increase, as do the West Indies and Bermuda, South America, "Other Asia" and Oceania, and the group described in the list as "Other Countries."

The month of June discloses losses in eight of the fourteen divisions. The United Kingdom heads the list of those on the wrong side, but both France and Germany have gains for the month. Mexico's purchases for the month amounted to less than half of what they did in June of 1907, dropping from $49,989 to $2,491, while South America dropped from $19,641 to $6911, or about a third. The total for the month was $710,722 as against $732,054 for June, 1907.

The summary in detail is as follows:

	June		Twelve Months Ending June		
	1907	1908	1906	1907	1908
Automobiles and parts of—					
*Automobiles	$669,570	$648,267	$3,497,016	$4,890,886	$4,656,991
Parts of	62,484	62,455		611,355	620,856
Exported to—					
United Kingdom	310,632	293,003	948,995	1,530,304	1,796,509
France	67,892	104,475	282,317	512,524	692,365
Germany	36,487	52,635	99,732	155,623	178,914
Italy	11,675	9,761	265,970	254,694	247,357
Other Europe	61,124	53,970	199,589	288,921	186,968
British North America	154,923	141,550	648,438	1,175,334	951,386
Mexico	49,989	22,491	422,626	812,639	401,617
West Indies and Bermuda	8,385	8,836	241,353	207,390	250,201
South America	19,641	6,911	96,174	204,211	220,644
British East Indies	682	952	37,644	34,608	29,510
British Australasia	4,974	1,972	160,944	207,715	155,722
Other Asia and Oceania	5,489	12,689	50,335	97,050	135,938
Africa	61	41	28,529	8,874	7,429
Other countries	100	1,436	14,370	12,354	23,287
Total Automobiles, and parts of	$732,054	$710.722	$3,497,016	$5,502.241	$5,277,847

* Number not stated prior to July 1, 1906.

In the Retail World.

A new selling branch of the Atlantic Motor Car Co., of New York, is to be opened in Newark, N. J., for the sale of Stoddard-Daytons. A large building at 2228-2239 Halsey street is being erected for the purpose.

Ralph E. Brown, formerly of the Winton branch in Cleveland, has succeeded O. L. Gooden as the Winton agent in Buffalo. He will handle Winton Sixes exclusively and has secured a Main street location in automobile row.

The Michelin Tire Co., of Milltown, N. J., has opened a branch at 2001 Euclid avenue, Cleveland, O. R. B. Tracy has been appointed branch manager and D. K. Dickinson, formerly of the Hartford Rubber Works, will act in the capacity of assistant manager.

The Week's Incorporations.

Vincennes, Ind.—Webb Motor Fire Apparatus Co., under Indiana laws, with $100,000 capital. Corporators—Albert C. Webb, Joplin, Mo., and others.

Philadelphia, Pa.—American Pneumatic Motor Co., under Delaware laws, with $1,000,000 capital; to manufacture cars of any kind, to be propelled on land or water by compressed air.

Newark, N. J.—Empire Tire & Supply Co., under New Jersey laws, with $100,000 capital; to manufacture automobiles, motors, appliances, supplies, tires, etc. Corporators—W. L. Montrose, C. C. Henry, S. J. Campbell, Newark, N. J.

New York City, N. Y.—Carl H. Page & Co., under New York laws, with $5,000 capital; motor parts. Corporators—Carl H. Page, 1627 Broadway; Robert H. Montgomery, 165 Broadway; Henry Bennett Leary, 55 Broadway, New York City, N. Y.

New York City, N. Y.—Renault Freres Selling Branch, Inc., under New York laws, with $100,000 capital. Corporators—Fernand Renault and Charles Richardiere, Billancourt, France; Paul Lavroix, 275 Central Park West, New York City, N. Y.

MERGER PLANS ARE EXPANDING

Many Concerns Would be Involved in the Big Combination—Parts Makers Included.

The projected merger of the Maxwell-Briscoe Motor Co., of Tarrytown, N. Y., and the Buick Motor Company, of Flint, Mich., has in the later negotiations taken the form of a $25,000,000 company, to combine not only these two concerns, but others as well, including parts makers, though the latter are to come in later. The stock to be issued would be $14,000,000 in preferred, and $11,000,000 in common Holders of the Maxwell-Briscoe stock would receive in exchange for each share, two shares of the new preferred and one of the common. The new concern would be known as the International Motor Co., and it is understood that several members of the banking house of J. P. Morgan & Co. stand ready to underwrite $900,000 of the preferred stock, offering it to the public at 97½ with a share of common thrown in, and representing the preferred as a sure 7 per cent. dividend payer and the common as a possible 25 per cent. earner.

In addition to President Durant of the Buick company and President Briscoe of the Maxwell-Briscoe company, the names mentioned in the negotiations include W. P. Hamilton and W. P. Horn, of Morgan & Co., and Otto J. Merkle. The attorneys for the transaction are Ward, Hayden & Satterlee. Both Hamilton and Satterlee are sons-in-law of J. P. Morgan.

Hartford Dealers Decide Show Date.

Because of the great success of last year's effort, the Hartford Automobile Dealers' Association has decided to hold another local show and to give its control over to the men who brought about such excellent results on the previous occasion. The committee chosen to conduct the affair consists of F. W. Dart, S. A. Miner and E. G. Biddle, and the dates chosen are February 27 to March 6. The show will probably be held in Foot Guard Armory, unless the new National Guard armory is completed in time to be available. Last year this committee, after closing the show affairs, paid exhibitors a dividend of 92⅔ per cent.

Creditors Attach a Body Concern.

The Auto Body and Top Manufacturing Co., a Hartford concern recently organized to do a chiefly local business and conducted by Walter a French and Joseph T. Tilden, has suspended business for the time being because the contents of the factory have been attached. The attaching creditors are F. S. Carr & Co., of Boston; the Sewa-d Rubber Co., of Berlin, Conn., and the Bonner-Preston Co. and Harry Goldberg of Hartford, Conn.

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FRANKLIN Automobiles

The big surprise of the Glidden tour.

Nobody who knew the Franklin, was surprised at what it did in the latest Glidden tour, but the worshippers of the old-time fetish enormous weight and bulk, with hard riding and encumberance, complicated water-cooling system—found their idol pretty badly smashed. To them the Franklin performance was the surprise of the tour.

Converted Skeptics

This being the first time a Franklin ever entered a Glidden tour it was watched probably closer and sharper than any other automobile in the contest. The skeptics were all ready to say, "I told you so," but instead they threw up their hands and declared, "We never would have believed it."

Perfect Scores

Of the four Franklins entered two made perfect scores. Not one was penalized for anything but broken springs.

These had previously been driven from 8,000 to 10,000 miles. The springs were not wrapped. 90 per cent. of the other automobiles had their springs wrapped or were equipped with shock absorbers. All the Franklins were stock cars, without any special preparation.

Franklin Air-Cooling

In spite of the many hills, hard pulling, and much low gear work, no Franklin ever had to stop for a minute to cool off. Nearly every water-cooled automobile had to stop somewhere to cool off. Some of them at times had to stop every 20 or 30 miles to take on water. Many steaming and boiling radiators were to be seen; some were leaking.

An Unbiased Report

The *Horseless Age* says, "That Air-cooling is a success has been fully proven by the performance of the Franklin cars. They are among the leaders at the night control each night."

"The performance of the Franklin Type D was a revelation. It made better average time, up hill and down, than some of the 50 and 60 h. p. six-cylinder cars. The engine ran perfectly and without the slightest sign of overheating, although it was put to every test of hard pulling and overloading that it seems possible for an engine to be subjected to."

Climbing

Even the Franklin runabout climbed better than automobiles with three times the power rating.

In one case the Franklin towed two bigger cars up a steep hill.

The type G went up some mountains on the second gear which many of the water-coolers had to take on the low gear.

No Mechanical Troubles

Day after day the official observer reported "Nothing done to Franklin cars."

The regular equipment bag, and the extra equipment bag were never opened on any of the Franklin automobiles.

Two Franklins had the 1909 high-tension magneto ignition only, and not even a plug was removed from these engines. There were no ignition troubles whatever.

The Easiest of All Tires

The Franklin had less tire trouble than any other automobile. The only tire trouble with Franklins was cutting, by glass.

The only car in the entire contest that had no tire trouble whatever was a Franklin—a model H six-cylinder automobile carrying five passengers and five suit cases.

This contest has demonstrated convincingly to many who never realized the truth before, that Franklin air-cooling, light weight and easy riding gives more going ability and more comfort and safety than you can get out of a heavy, hard-riding water-cooled machine no matter how it is rated nor how much it costs; and that you get all this with less trouble and lower operating cost.

Owning-cost is what counts—owning-cost for actual road ability. That makes Franklin economy.

16 h. p. 4-cylinder Runabout $1,750	28 h. p. 4-cylinder Touring-car or Runabout...$2,850
16 h. p. 4-cylinder Touring-car.... 1,850	42 h. p. 6-cylinder Touring-car or Runabout... 4,000

Prices f. o. b. Syracuse.

Write for the 1909 catalogue.

H. H. FRANKLIN MFG. CO., Syracuse, N. Y.

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Building Inferences on Fact.

The temptation to manufacturers to exploit the really wonderful records made by some of their cars as to up-keep cost is practically irresistible, and it is only an evil temptation to be resisted where there is lacking a degree of caution which will properly limit the claims and reasoning with which such figures are given out. Unfortunately the enthusiasm of the moment quite frequently outbalances good judgment when the public is to be informed as to the performance of the cars, and exaggeration of suggestion is employed to give the impression that any purchaser may reasonably expect to get equally good results and to incur as little expense.

Opposed as are the epigrams that "Figures never lie" and that "You can prove anything by statistics," they both have application in the elaborate returns from inquiries as to upkeep cost. Every manufacturer is at liberty to conduct his own inquiry in his own way and to strangle unfavorable figures if he feels like it. There is an advantage in devising the plan of the inquiry so that it will bear the stamp of completeness and thoroughness, thus being more convincing to the careful student of figures, but deficiencies in this respect can, to a certain extent, be covered over by the force of heavy advertising and clever arrangement of the tables.

Undoubtedly the individual work of several manufacturing concerns in obtaining data as to the upkeep cost of their cars, has been a valuable contribution to the general subject of motoring, and the reward that they have found in examples of durability and economy in their cars has been adequate compensation. In most instances the facts thus obtained have been used with commendable discretion. Their mere presentation as facts, bare of obvious comment or extensive reasoning, is impressive and favorable, but the addition and dressing up which such statistics are only to apt to receive in the way of inferences and reductio ad laudatum, with a wealth of assertions about "average cost" that the buyer may rely on, rather pull on those who dislike being pushed into judgments and conclusions.

The prospect of there ever being any standard or uniform method of inquiry and publication of results as to upkeep cost and durability of various makes of cars is infinitely remote because of the practical difficulties in the way. To the prospective buyer, however, some such scheme would appeal, as giving him absolute and correct comparisons. Lacking such a system, it remains for the makers themselves to prepare and publish such statistics in such a manner that no doubts will arise but that the conclusions expressed in connection with them are fully warranted by the facts.

The Problem of the Agency.

It is generally admitted that the selling of automobiles is constantly becoming a more difficult matter, and that as time goes on, the volume of sales business is growing to depend less upon the merits of the car itself and more upon the sagacity and persistence of the salesman. It is also acknowledged that this is resulting in a weeding out process among selling forces which is destined to have a clarifying influence on the trade in the long run. In general this tendency is remarked in connection with the selection of salesmen. As a matter of fact, however, it is even more marked in the case of the agent. For where the salesman's responsibility is practically ended with the closing of the sale and delivery of a car, the agent is expected to take good and faithful care of all his customers even after they have gone abroad with their machines, in order to round them up at the end of a measurable season, ready for new cars—or so his function may be construed.

In this respect, it is undoubtedly a fact that the manufacturer is called upon year by year to face a problem of growing difficulty in the placing of his agency contracts. With the closing in of the lines of business and the increasing rivalry of the trade, it is no longer possible to retain an agent for his business ability alone, for his experience in the industry, nor for the patronage which his position or acquaintance may be supposed to command. The ideal agent must have each of these qualifications, and must in addition, be an alert, clear-headed business getter, as well as a more or less successful executive.

The time has passed when mere geographical location and social pull were sufficient qualifications to suit the careful sales manager. Men who are really competent agency heads, are being sent about from coast to coast, and from north to south and south to north, to replace other men whose success has been tempered with varying degrees of dissatisfaction. There are good heads of departments or branches, who understand the selling business, and who possess sufficient adaptability to enable them to comprehend the varying conditions imposed by changes of location. It is a noteworthy fact in this connection, that just such changes are not being made indiscriminately, but are governed by the requirements of the posts and by the fitness of the men to fill them.

Hitherto, much of the really hard work that has been done in the industry has been carried out in the manufacturing departments. Slow and expensive manufacturing processes, constant alterations of design, unsatisfactory manufacturing processes, constant alterations of design, unsatisfactory and ever changing market conditions, have combined to render the path of the factory man a thorny one. Now, with the increase in specialization, the growing use of special tools, and the tendency to build cars on the multiple production basis wherever practicable, it would seem that a reversal

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is about to take place—that the factory man must be due for a period of more orderly career than has been his lot hitherto, and that the man in the field must live the uneasy life. All of which must tend to complicate the selection of agents, and deprive that section of the industry of the sympathy which it actually merits.

Ethics of the Repair Shop.

There are so many unsatisfactory features connected with the business of repairing cars, and the difficulties attendant upon any attempt to run it along strictly business lines are so nearly insurmountable, or so it appears, that the dealer who is not absolutely dependent upon it as an adjunct to his garage interests, is sometimes tempted to discontinue it entirely, and frequently fails to give it the attention which it really merits. As a source of revenue, the profitable nature of the automobile repair shop is beyond question. Yet in times of prosperity in the selling line, or in the operation of the garage alone, the real value of the repair shop as an adjunct to the other departments, may not be fully appreciated.

The repairman who is also an agent, ought to be at considerable pains to hold the patronage of owners of his particular make of machine, not simply for the sake of his own convenience in the matter of selling replacements and handling repairs to mechanism with which his mechanics are thoroughly familiar, but also for the sake of retaining the ear of the owner. By this means, the owner, and through him the manufacturer, of whose forces the agent is practically an enlisted member, are enabled to keep in closer touch than is possible where the car goes out of existence, as it were, when it leaves the floor of the agency. The result of this is that if the repair work is handled with sufficient tact, the shortcomings of any given model may be bridged over in many instances, mistakes in design and construction may be rectified without undue hardship on either side, and the rival agent is deprived of the coveted opportunity of drawing invidious comparisons.

In this connection, the possibility that unscrupulous repairmen who are interested in cars of other makes may even countenance the deliberate inflation of repair bills, or wink at the tricks of disgruntled mechanics who seek to satisfy some grude against the manufacturer, is one which is so real as to assume almost the appearance of a risk in this connection. No matter how abundant the owner's faith in his machine, it cannot be proof against continued and apparently well founded insinuations of its inferiority. Nor is it likely that even unmerited criticisms will fall upon wholly deaf ears, if he happens to have a grievance of some sort against the agent from whom he purchased the car.

It is thus a very good thing from the dealer's standpoint to retain the good will of all his customers. When in order to do this, it becomes necessary to create an efficient and wholly practical repair department, no pains should be spared to do so, even though the direct monetary reward be not a large one.

As to reaching out for business on cars of other makes, much depends upon the matter of shop equipment, and the readiness with which duplicate parts may be obtained. Where replacements are not easily available, the well equipped mechanic is always ready to turn out a substitute—more or less suitable for the purpose, according to his own intelligence and the facilities at hand. But in nearly all cases, the cost of such replacements will be higher than those demanded by an honest maker; and where such is the case, the interests of the customer are not served to the best advantage in consequence.

Whatever may be the evil effects upon the selling business which result from the "knocks" of envious or malicious rivals, the effects of the customer's own dissatisfaction on questions of repairs are worse, since they effect the proprietor directly and are in no way lightened upon the broad back of the manufacturer. To the man who accepts it as a requirement of the agency the repair business thus becomes a necessary evil, and to him who makes it a specialty, a source of deep difficulty. At the same time, it is not without its compensations, and when operated under favorable conditions, these are of overwhelming importance.

The Army Chauffeur.

An interesting reflection on the chauffeur problem as governing the reliability of car performance is furnished by the remarkable incident in connection with the use of the army automobiles at the recent manoeuvres at Pine Camp. Two cars were supplied for the purpose, of the same make and model, and supposedly duplicates in every respect. At first both machines were unsatisfactory, and seldom were in a condition for service. Then a guard was placed over one of them, and this machine was not available for use save by order of the commanding general. At once the conditions of unreadiness disappeared, with the result that the machine created an impression which is aptly conveyed in General Grant's expression, "The automobile is a necessary adjunct to the army's equipment." The other automobile, a mate to the one which excited General Grant's remark, received an adverse report from the officers to whose use it was assigned. This machine was not guarded and positive evidence is supplied that its use was not confined solely to military service.

The conclusion therefore is justified that the civilian chauffeur, not the manufacturer, may be blamed for the unsatisfactory action of the one machine. And, that the automobile as an instrument of transportation is not available for use in time and place of battle is a conclusion which is not borne out by facts and therefore is unjust and unfair. It will be interesting to read the report of the use of power driven vehicles in the army when the machines are exclusively operated by men of the engineer corps who are subject to army discipline.

COMING EVENTS

Sept. 1, 2, 3, and 4, Chicago, Ill.—Chicago Motor Club's postponed 1,000-mile reliability run.

Sept. 7, Columbus, Ohio.—Columbus Automobile Club's race meet.

September 7, Lowell, Mass.—Lowell Automobile Club's 200 miles road race, on Merrimac Valley boulevard.

September 7, Columbus, Ohio—Columbus Motor Club's 24 hours endurance race at Columbus driving park track.

September 7-12, Hartford, Conn.—Connecticut State Fair Association's outdoor show and grand circuit races at Charter Oak Park.

September 12, Louisville, Ky.—Louisville Automobile Club's race meet at Churchill Downs.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles outlaw race for foreign cars.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show in Madison Square Garden.

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SMALL FIELDS AT WILDWOOD MEET

Postponed Races Attract 10,000 Spectators —Dennison, Bourque and Wilkie Capture Nearly All the Honors.

A small field of competitors which gave practically no opposition to one or two cars, made the postponed boulevard meet at Wildwood, N. J., on Monday last, 3d inst., not as interesting as otherwise might have been the case. The meet had been postponed from Saturday because of rain, but despite the lay over more than 10,000 season resorters and week-enders witnessed the events, all but one being at one mile.

Two accidents before the meet fortunately did not prove serious. The accident in which Richard Sellers, a well-known Philadelphia club man, was injured, was unusual. Sellers was riding in Richard Williams' Pennsylvania racer, when the top of the coil box flew off and jammed in the clutch operating mechanism, so that it could not be released. The car was running at better than a mile a minute when the mishap occurred and two alternatives presented themselves to Williams as he neared the end of the course. One was to run into the inlet, and the other to turn into a cross road. The driver took the latter choice and the car overturned, rolling over and then righting itself. Sellers fared worse than Williams, who escaped with severe contusions and lacerations of the arms and body. Sellers' shoulder was dislocated besides other injuries.

The other accident occurred to Walter Vennel. The hood of his Stanley steamer worked loose and flew off, striking Vennel in the head and shoulders. He was badly cut but not seriously.

Differing from Saturday, when it rained in torrents, the course was thoroughly dried and smooth. Good time resulted, but the records for the course, established on July 4th, were not touched. A. A. Dennison, William Bourque and Edward Wilkie had easy picking, winning every event to which they were eligible. The summaries:

Gasolene cars under $1,250—Won by Edward Wilkie (Buick); second, E. W. Smith (Middleby). Time, 1:19.

Gasolene cars, $1,251 to $2,000—Won by Edward Wilkie (Buick); second, E. W. Smith (Middleby). Time, 1:22.

Free-for-all—First heat won by William Bourque (Knox); second, Walter Vennel (Stanley); third, J. W. Parkin, Sr. (Parkin). Time, 0:49⅘. Second heat won by A. H. Dennison (Knox); second, D. Walter Harper (Stanley); third, W. H. Sharp (Sharp Arrow). Time, 0:50. Final heat won by Dennison; second, Bourque. Time, 0:50.

Gasolene cars, $2,001 to $3,000—Won by W. Bourque (Knox); second, W. H. Sharp, (Sharp-Arrow). Time, 0:54⅗.

Gasolene cars, $3,001 to $4,000—Won by William Bourque (Knox); second, J. W. Parkin, Jr. (Parkin). Time, 0:50⅘.

Four cylinder gasolene cars over $4,000—Won by William Bourque (Knox); second, H. J. McMichel (Stearns). Time, 0:54⅗.

One kilometer time trials—Won by A. H. Dennison (Knox); second, Wm. Bourque, (Knox); third, J. W. Parkin, Jr. (Parkin); fourth, D. W. Harper (Stanley); fifth, Ed. Wilkie (Buick). Times, 0:28, 0:29⅕, 0:30, 0:31⅗, 0:41.

Steam cars only—Won by D. Walter Harper (Stanley); second, Walter Vennel (Stanley). Time not taken.

Mile time trials—Won by A. H. Dennison (Knox); second, William Bourque (Knox); third, W. Parkin, Jr. (Parkin); fourth, W. H. Sharp (Sharp-Arrow); fifth, Ed. Wilkie (Buick). Times, 0:47⅗, 0:48⅘, 0:50⅗, 0:53, 1:08.

Pickens Again Hankers for $port.

Once more William H. Pickens emerges into the limelight of publicity. Pickens, who was the United $tates Motor Racing Association, but now "of the Federation of American Aero Clubs, with headquarters in Chicago," as one of the Chicago papers puts it, is manifesting again his interest in automobile racing as $port. The coming State Fair to be held in Mississippi looks good to him as an opening and he has written to the management proposing a series of automobile races by expert drivers as a feature. Pickens has looked over the ground at Jackson, says the track there is one of the best in the country for such races, and has presented a brilliant publicity program Jackson does not appear to warm to the Pickens program, however. Possibly his fame has preceded him thither.

Asbury Park Turns Latham Down.

Clouds have fallen over the pathway to success that C. Wood Latham blazed for himself when the city of Asbury Park engaged him to organize its September Automobile Carnival. They have taken the shape of allegations concerning unpaid bills for board and entertainment. Whether they are nothing more than allegations, or not, they have shed a cold shower upon his budding hopes, for the business men promoting the affair have given formal notice that no longer is he authorized to represent them in any way.

Australian Hospitality for American Tars.

Arrangements are being made by the Automobile Club of Victoria, Melbourne, Australia, to entertain the officers of the United States Navy when the fleet visits Australia in September. The entertainment will consist of an automobile trip to Fernshaw and the Blacks' Spur.

The secretary of the A. C. V. has sent a circular to the club members requesting them to supply the cars and act as hosts to the sailor occupants of their respective machines.

TO PROMOTE METROPOLITAN RACES

New Association Organizes with That Aim —Promises to Steer Clear of Friction with Other Bodies.

To undertake the direct local control of automobile racing around New York City, a new organization has been formed, which is to be known as the Metropolitan Motor Association. It is not wholly new, however, being more or less in the nature of a phoenix emerging from an egg warmed in the ashes of "Tom" Moore's so-called Metropolitan Automobile Association and later Automobile Manufacturers' Committee. It starts out with the apparent conviction that there is a field open to its occupancy where it can exercise its propensity for promoting sport without engendering friction with other organizations.

Following a convivial dinner at Rector's, a meeting was held last Friday at which a permanent organization was adopted, and the "objects" of the organization set down in cold black and white. Furthermore it was decided to hold a 24 hour race at Brighton Beach, together with a number of sprint races.

The "objects," as formally indited, are:

"To support only such contests held in and within 75 miles of New York City as have for their first object the stimulation and growth of public interest in automobile events and which will benefit the sport and industry as a whole.

"To eliminate from such contests inexperienced drivers and officials.

"To regulate the number, length and conditions of contests and races.

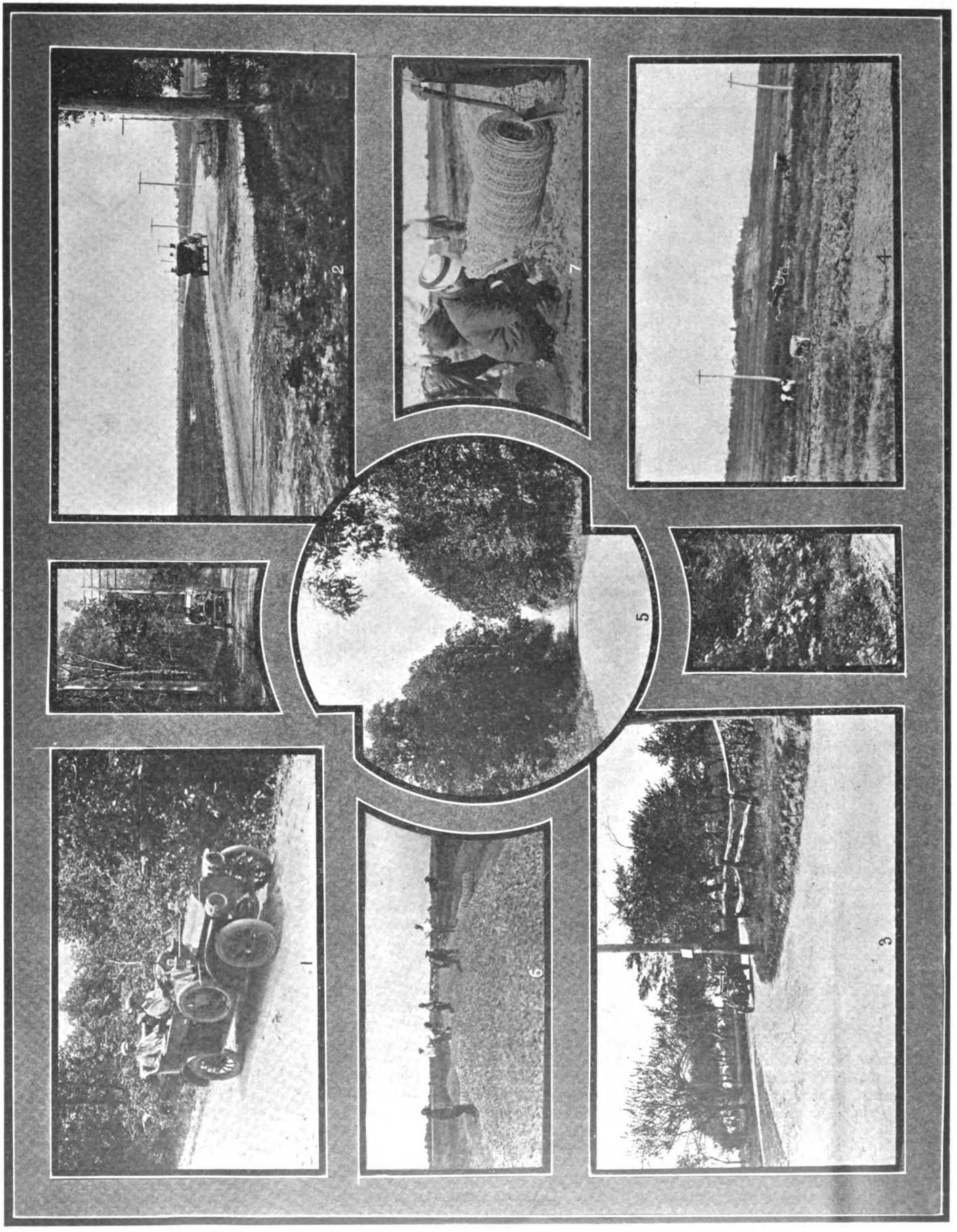
"To safeguard the interests and safety of all contestants and the public by rigid supervision of courses over which contests and races are to be held."

The association is careful to disclaim any intention of trying to usurp powers or functions of the American Automobile Association, and hopes to find a basis "whereby all interests, including clubs, associations and contestants can get together, without friction."

Those present and who have been enrolled as the charter members, were: H. A. Lozier, Lozier Motor Co.; C. A. Singer, Palmer & Singer; Paul LaCroix, Renault Co.; E. R. Hollander, Fiat Import Co.; C. F. Wyckoff, of Wyckoff, Church & Partridge; C. M. Hamilton, Isotta Import Co.; Harry Houpt, of the Harry Houpt Co., and F. E. Moskovics, of the Allen-Kingston Co. The officers chosen were: C. F. Wyckoff, president; E. R. Hollander, vice-president; Harry Houpt, treasurer, and Walter Allen, secretary. To help in the arrangements for the Brighton Beach races, the services of Fred Wagner have been enlisted, and for the 24 hour event at least two entries from each of the members is promised.

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TYPICAL VIEWS OF THE LONG ISLAND MOTOR PARKWAY.



1, WHERE THE PARKWAY BEGINS, INTERSECTING SWAMP ROAD. 2, WHALE NECK AVENUE, SHOWING ROAD EXTENDING INTO HEMPSTEAD PLAINS. 3, TURN FROM OLD WESTBURY ROAD INTO COUNTRY ROAD. 4, INTERSECTION OF PARKWAY AND WHALE NECK ROAD. 5, SERIES OF KNOLLS, THREE MILES EAST OF JERICHO TURNPIKE. 6, VIEW SHOWING METHOD OF CONSTRUCTION. 7, ENGINEER BARNES MEASURING DEPTH OF ROCK TO BE COVERED BY WIRE NETTING.

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VANDERBILT COURSE COMPLETE

Perfecting Arrangements for the Great Race —Mammoth Grandstand Projected— Troops to Maintain Order.

With the announcement of the complete course of the Vanderbilt cup race there is supplied practically all of the advance information that can be desired, except the final list of entries. The race itself, as previously announced, is to take place on October 24, and the course selected is in Nassau county, Long Island. The distance will be 254 miles or ten laps around a circuit of 25.4 miles. Of the course to be used, 11 miles are on the new Motor Parkway and 14.4 miles on the public roads. There is but one railroad crossing at grade and but eight turns of any consequence are encountered. A grandstand to seat 10,000 people will be erected and 11 miles of parking space along the Motor Parkway will be set aside for those who wish to view the race from their cars. Bonds for $25,000 are to be given that all damages to the roads will be repaired, and 1,200 uniformed troops will guard the course.

The nature of the course chosen is such as to give opportunity for tremendous and sustained speed. As indicated in last week's Motor World, the 11 mile section of the Parkway which is to be used is being hastened to completion and its turns are being banked with a care and skill that will rob them of practically all danger. Tests of the curves are to be made in a few days with a racing machine, to make certain that the degrees of pitch and curvature have been laid out in such a way as to take care of the enormous centrifugal force developed in fast work. If the tests disclose the possibility of improvements, the necessary changes will be made, so that by the time the race occurs the Parkway section will be in perfect shape.

Similarly a great deal of preparation and care will be given to the open roads that are to be used, the curves being banked where it is possible and widened where conditions permit. All the bad holes and bumps will be given attention and the whole surface given treatment to prevent dust.

It was not until last Saturday night that the final details of the course were given out. The accompanying map shows the route the machines will traverse and the location of the grand stand, together with the chief points marking the path.

The northern boundary of the course is the well known Jericho turnpike, beginning at the old Westbury road about three miles east of Krugs Corner and running 10 miles east to the intersection of the Woodbury and Hicksville macadam road.

The western boundary of the course is composed of a portion of the old Westbury road running south from the Jericho turnpike to the Old Country road and along the Old Country road about an eigth of a mile to Whaleneck avenue, thence south to the beginning of the Motor Parkway.

The southern boundary is composed entirely of the new cement Parkway beginning at Whaleneck avenue and paralleling an abandoned branch of the Long Island Railroad known as the Hempstead branch, for a distance of nearly 11 miles to a small settlement called Bethpage.

The eastern boundary of the course begins at the termination of the cement Parkway at Bethpage and runs north along Round Swamp road to its intersection with the Woodbury and Hicksville macadam road, along which it continues to the Jericho turnpike, where there is a sharp left turn known as the "Flatiron." From this turn the course practically coasts westward on Jericho turnpike and thence south to the beginning of the Parkway.

There are eight sharp turns on the State and county road portions of the course, but the Parkway turns are all beautifully rounded and banked. The surface of the cement is as smooth as a city concreted street and the possibilities for high speed are quite enough to satisfy the ambition of the most daring racing drivers in the world.

It is proposed by the Motor Parkway corporation to erect a mammoth steel grand stand on the south side of the cement roadway about four miles from its beginning. From this stand spectators will have a bird's-eye view to the east and west for the entire 11 miles so that it will be possible to see the cars as they attain their highest speed on the beautiful S turns and as they pass over the graded viaducts crossing the railroad and intersecting public highways. In extent this grandstand view will be about ten miles greater than at any previous Vanderbilt race.



COMPLETED SECTION OF LONG ISLAND MOTOR PARKWAY, SHOWING S CURVE IN DISTANCE.

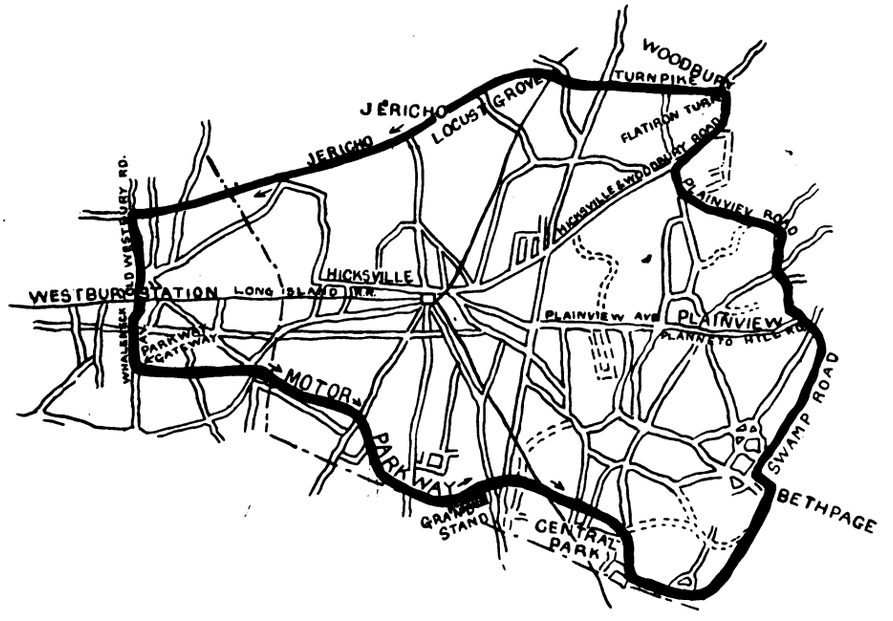
The new course might aptly be termed "The Plateau Racing Drome." The first impression of the visitor is that he would like to be up in a balloon a few hundred feet and see the entire circuit, and this would be quite possible because of the almost monotonous flatness of that section of Long Island. Beginning at the Jericho turnpike and the old Westbury road the course sweeps through the famous Hempstead plain country, where there is not a vestige of shrubbery or any wood. All of the cementway passes through a country of the same character—nothing in sight save the low meadow grass and an occasional cow grazing.

After the course leaves the cementway

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and comes back to the public highway at Bethpage, there is what has been termed in the past, Manneto Hill, but it is such a slight affair it is hardly worthy the name. The foliage along Round Swamp and Plainview roads is quite thick, and if there is any dangerous part of the course it would be in this section, where the turns are quite frequent and where the view ahead is generally of short range. For the most part the racing cars will be tearing through either a beating sun or rain, as the day may happen to afford. The only shade is along Jericho turnpike where the trees are quite tall and in parts extremely beautiful, sometimes overlapping the roadway.

in the time allotted. All of the crushed stone and the cement that is to be used on the job is on the ground, together with the steel netting which forms the foundation for the cement roadbed. The wire fencing has been contracted for and is almost ready for delivery. This fencing will be about five feet high and composed of ten parallel wires set close together and held in position by vertical wires about a foot apart. Work on the steel span at Central Park and the cement bridges in the section is being pushed rapidly, and three toll lodges will be completed in time for the race. Because of the military guard and the fact that all four sides of the course are much



MAP OF THE VANDERBILT CUP COURSE

Permission to use the public roads was obtained from the board of supervisors of Nassau county at a hearing at Mineola, L. I., on August 3d, when A. R. Pardington, of the Vanderbilt Cup Commission, appeared and gave a statement as to the measures that had been taken both to protect the interests of the county and to safeguard the public. Several prominent residents of the county appeared to recommend that the board grant the necessary permission and no opposition was presented except by one resident of Westbury, whose objections proved unavailing. Accordingly the counsel for the board was instructed to draw up the regulations and bonds by which the county will be held exempt from damages and to assure a satisfactory recompense for such repair expense as the race may cause in connection with the roads.

The entries for the race close September 1, and already a number have been received. The elimination race for the American cars will be held on October 10, and Pardington promises that the Parkway section will all be completed by that time. There are a number of contractors on the work and their sections are so short that it will be an easy matter for them to finish more isolated than in previous races, it is thought that there will be no trouble in controlling the spectators.

American Thomas Car Reaches Paris.

Escorted by a great parade of automobiles the American Thomas car, carrying George Shuster, George Miller, Captain Hans Hanson, and George McAdam, arrived at the office of Le Matin in Paris at 8 p. m., on Thursday, 30th ult., the second of the New York to Paris "racers" to reach the French capital, but, by virtue of its allowance of 30 days against the German Protos car, the winner of the contest. The Protos, as already announced in the Motor World, arrived in Paris on July 26th.

The escort for the Americans drove out 25 miles to Meaux to meet them, and the entry into Paris was a triumphal progress, the gay crowds along the brilliantly lighted boulevards shouting "Vive le car Americain!" There was just one incident that jarred, but it resolved itself into an amusing feature of the parade. When the American car with its dust covered khaki clad crew reached the Place de l'Opera and was in front of the Cafe de la Paix, it was stopped by a gendarme.

"You are under arrest," he declared. "You have no lights on your car."

A crowd of Americans rushed from the cafe and explained the situation to the officer, telling him that the machine was finishing the New York to Paris race, while Shuster declared that the lamps had been broken on the journey, but no explanation moved him. A man on a bicycle came forward and offered his lantern to the crew, but it could not be detached from the machine. Finally the bicycle was lifted bodily onto the front seat of the automobile and placed between Shuster and Miller while the owner climbed into the rear seat and the car was allowed to proceed.

Formal award of the prizes will be made toward the end of the current week, it is expected. The committee on the contest are to hold a meeting for that purpose and no doubt is entertained that they will award first honors to the Thomas car. The Berliner Zeitung am Mittag, however, has filed a protest against the award of anything but the first prize to Lieut. Koeppen of the German Protos car. That paper, which holds that the handicap placed on the Protos was unsportsmanlike, declares that the Imperial German Automobile Club fully shares its view of the situation, and will probably address formal representations to the committee in its own name. The Zeitung also requests the German press to take up the question and join in the protest because the "matter has a certain national importance."

City Wants Two More Automobiles.

New York City again is in the market for two automobiles. The cars are for use in the department of docks and ferries, and the sealed bids were opened on Tuesday last, 4th inst. This is the second time that this department has advertised for cars this year. On the last occasion, in April, the bids were thrown out as the lowest offer was $7,500 for the two machines. The present competition resulted in a bid of $6,490. The contract has not yet been awarded.

The specifications call for two new 4 cylinder water-cooled cars. The interesting features of the specifications are found in the elimination of the phrase, "American make," and that the body may be of "steel casting" construction. While chrome steel is called for in the axles and crank shaft, and its composition is specified, the clause which formerly read "each bidder shall submit with his bid a guaranteed manufacturer's analysis and test of the steel used for the above named purpose," has been altered so that now it stands, "the successful bidder shall submit with his bill a guaranteed," etc. The cars need not be of the 1908 model.

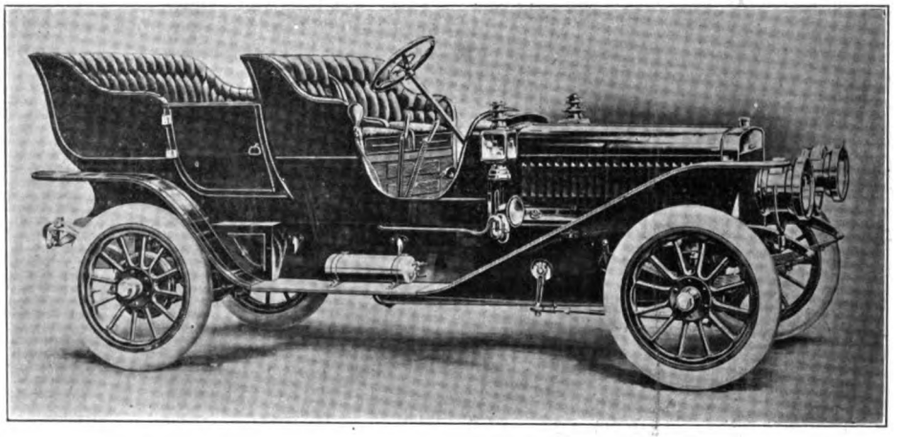
The bids received were from Cordner & Flinn, who offered two Acmes for $6,490; The American Locomotive Co. with Berliets at $7,000, and Homan & Schulz with Nationals at $7,400.

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SIX-TEEN-SIX AND ITS SISTER

New Winton Model to be of Increased Power—Only Minor Changes to Appear in Its Predecessor.

Following the all-six-cylinder policy adopted last year, the Winton Motor Carriage Co., Cleveland, Ohio, has decided upon an extension of its line. Two distinct models are to be manufactured hereafter, both to be known as the Winton Six. One, which will be practically a continuation of the Six-Teen-Six model, will be rated at 48 horsepower, and will be equipped with a five-passenger body. The other will be of 60 horsepower output, and will carry a seven-passenger body. Deliveries on both models will begin shortly.

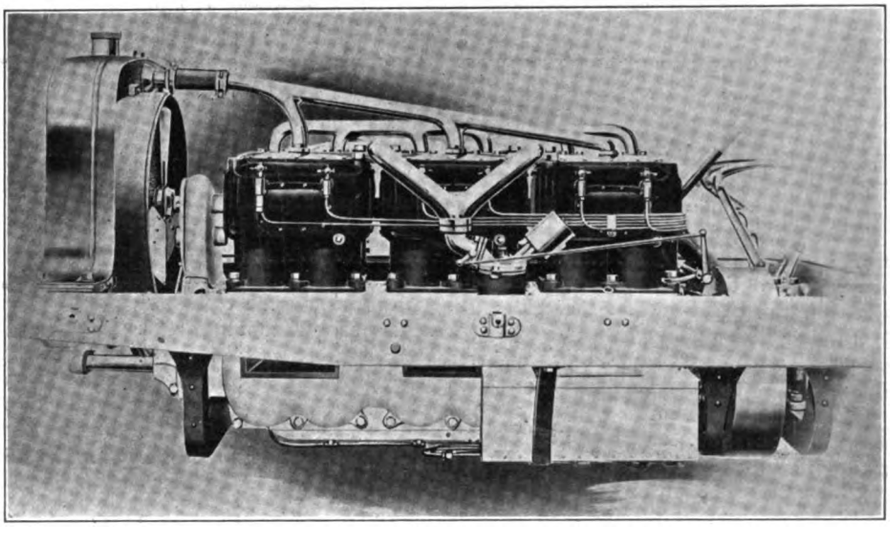


WINTON SIX-CYLINDER, 48 H. P.

In general design no changes have been made. The cylinders are offset, and cast in pairs. The valves are of the two-piece variety and are mounted on the right side of the motor. The valve tappets, springs, and plungers are enclosed in housings covered with detachable pressed steel plates. No moving part of the motor is exposed except the fly wheel. The starting device is continued without change. Compressed air, stored in a tank from the front cylinder, is admitted to each of the cylinders in rotation through a rotary distributing valve, which is the only moving part of the system. The air, admitted during the firing stroke, exerts sufficient pressure to drive the pistons down past the point of ignition and assists the crank shaft until the regular impulses are established. In order to throw the device into action it is necessary merely to press a button mounted on the dash.

The carburetter has two nozzles and two throttles, interconnected in such a way as to open progressively, the smaller opening first, and later picking up the other automatically. The float is arranged concentric with the aspirating nozzle, and the mixture is compensated automatically without the use of moving parts. Double ignition is employed, the regular system being the Eisemann high tension magneto with distributor, single non-vibrating coil and plugs located horizontally over the intake valves. Accumulators also are provided for use in starting the motor and as a standby.

Lubrication is carried out in much the same manner as on the Six-Teen-Six model, but in simplified form, in that one pump now serves in place of twelve. The crank shaft main bearings, and the two-to-one gears are fed directly by a pump operated by an eccentric on the rear end of the crank shaft. A second pump, operated by the same eccentric, draws the oil drainage from the crank case and returns it to the tank, whence it again passes through the system after being properly filtered. The water circulation is secured by means of a gear driven centrifugal pump, the radiator being of the vertical tube pattern hitherto employed.



MOTOR OF WINTON 48 H. P. SIX-CYLINDER CAR

The transmission system differs in the two models in that that used in the 48 horsepower car affords three changes of speed in the forward direction, while the larger car has a four-speed gearset. The master clutch is of the multiple disc type, and has 67 relatively small steel units, 33 of which are mounted on the transmission shaft, and 34 coupled to the transmission spiders, which are connected to the fly wheel. The object of this is to place the group having the least inertia on the part affording the greatest variations in velocity. Six springs, equally spaced about the device serve to effect an even distribution of tension on the plates. As is customarily the case, the clutch pedal and brake lever are interconnected, but the clutch is so arranged that it cannot be locked out of engagement.

The change gear group is of the selective type, mounted on annular ball bearings and affords the usual direct through drive on the third speed, through an external and internal gear combination. By means of a safety mechanism, it is made possible to slip into neutral position without disengaging the clutch, but impossible to enter either of the gears again until the clutch is released.

The propeller shaft is coupled by means of roller type cardan joints, the flexible connection between the motor and change gear consisting of a split bushing which engages the squared end of the main transmission shaft and a similar squared end on the fly wheel. The entire mechanism is completely housed.

The rear axle is of the full floating type, mounted on Timken roller bearings the load-carrying axle tube being of heavy drawn steel tubing. The differential or balance gear is of the spur pattern. Four brakes are mounted on the driving wheel hubs, and are operated through equalizers. They are of the external-internal pattern, and have large areas. No brake attachment is carried on the transmission proper.

The frame side rails and drop sections which carry the sub-frame are of one-piece channel section steel, with heavy gusset plates, and the power plant is entirely supported by the sub frame. Suspension is, as

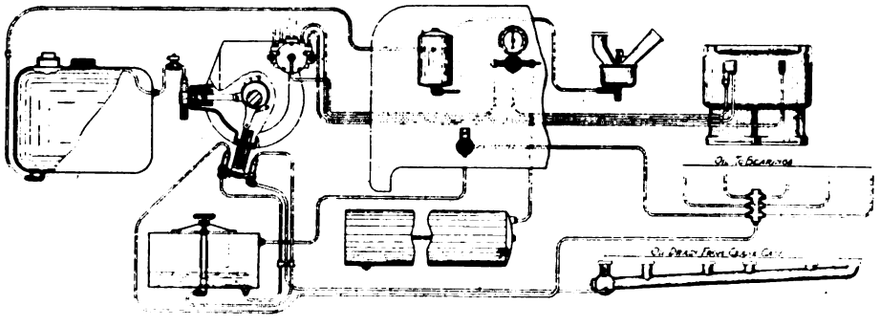
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hitherto, by means of the Winton twin ersspring equipment, to which shock absorbers have now been added as a part of the regular equipment. The torsion and radius rod groups are as in the equipment of the present model.

The wheels are: for the 48 horsepower model, 34 inches in diameter, with 12 spokes; for the 60 horsepower car, 36 inches in diameter. All wheels run on Timken roller bearings, this applying to both models and the regular tire equipment specifies the 4½ inch size, quick detachable type.

The main gasolene tank is suspended from the rear of the chassis and is of 22 gallon capacity. Three gallons are contained in a reserve compartment isolated from the main body of fuel. The feed is by pressure to an auxiliary tank, mounted on the dash board, from which it is led by gravity to the carburetter.

All bodies are of wood, constructed after special constructional designs. Mahogany



WINTON SELF-STARTER AND OIL PIPING

dashes are employed, with steel hoods. The bonnets are of aluminum. A steel dust pan extends from the forward end of the motor to the rear of the transmission, making, with the apron, which extends from the radiator to the motor, a complete enclosure for the under side of the car.

Multiplicity of piping and other connections being a common fault in many cars, it is interesting to observe the relative simplicity of the equipment employed on the machines in question. As shown by the accompanying illustration, the air tank for supplying the self-starter is located immediately at the right of the oil tank, with a line leading to the push button and gauge on the dash. The small tank shown on the dash, is the auxiliary gasolene reservoir. The carburetter is shown at the right of the dash. From the first cylinder, two pipes lead, one for receiving pressure to be stored in the air tank; the other pipe is similar to that which leads to each of the six cylinders to distribute air to the cylinders from the supply tank through the distributor valve. Oil leads to bearings and oil drain from crank case are shown at the lower right hand side. The starting crank, which is useful only for emergency purposes and repair service in overhauling the motor, is carried in the tool box. The foot button on the dash takes its place under ordinary circumstances.

POINTS ON SELECTING LUBICANTS

Some Fallacies Concerning Oils That Mislead the Average User—An Expert Offers Suggestions.

Few motorists realize the importance of proper lubrication and the havoc which is wrought by using an inferior lubricant. Many buyers are influenced by the matter of price, without considering quality, or are guided by the advice of a man who is interested in selling the goods on which he makes the greatest profit, says H. E. Haws, manufacturer of Panhard oil. He continues:

Unfortunately much oil is sold in barrel or half-barrel lots, and the dealer's word is practically the only assurance the consumer has that he gets what he pays for. Most of the leading brands of cylinder oils retail at approximately the same price, but of late there has been a flood of cheaper oils, and the car owner is the one that gets the worst of it.

Much has been written recently as to substitution and the tests which a satisfactory cylinder oil should stand. Some of this has entirely missed the point. The tests for the flash point, gravity and viscosity, while interesting to the practical chemist, are unnecessary as far as the motorist himself is concerned. The manufacturer of the several standard grades on the market would be glad to furnish these tests on application.

The determination of the amount of free tarry matter in the oil is the real factor which governs the amount of carbonization to be expected. The catch phrase, "Color Test for Carbon," has even been adopted by some manufacturers, meaning that lightness of color indicates freedom from carbon.

This plausible argument, convincing to the unskilled user, has arisen from the misinterpretation of the word "light" as applied to oils. While it is true that lightness of gravity is of the greatest importance, it is also undeniably true that lightness of gravity and lightness of color are not necessarily correlative.

An almost white oil may be of a much heavier gravity and contain more free carbon than another oil many shades darker in color. Excessive filtration, while removing the color, may, if carried to excess, remove the lubricating properties of the oil, while bleaching with acid, though having no effect on the lubricating qualities of the oil, may leave an acid residue, injurious to cylinders and pistons.

The consumer should therefore be guided by the reputation of the manufacturer, and not be influenced by a few cents a gallon saved, which may mean many dollars spent later for repairs.

It often occurs that a car owner will condemn a certain brand of oil which another motorist finds entirely satisfactory. This is because different motors require different grades of oil.

Weakness of the Expanding Clutch.

While in many respects the positively actuated internal expanding clutch is superior to either the leather faced cone or the multiple disc types, its chief point of weakness is in the number of small parts involved in its makeup. It is necessary that these shall be properly adjusted to one another, and kept amply lubricated at all times, regardless of the fact that the centrifugal force generated tends to throw out any liquid lubricant which may be applied to it. While many devices of this type are highly successful, the fact that they require greater care in order to produce equally good results with those of the other two types, is more or less of a drawback to their use. It is necessary with a device of this sort, to see that the moving parts are properly adjusted at all times and the adjustments secured against lost motion and working back. From the standpoint of the designer, this type presents far more serious difficulties than any other, since it is more complicated, though not necessarily composed of a greater number of parts.

Evil of Over Long Split Pins.

There is a deplorable tendency among manufacturers to use split pins which are of much greater length than is absolutely necessary for the work to which they are assigned. It is only required that the open end of the pin shall protrude from the part to be locked just a sufficient distance for the ends to be slightly parted. When the ends are long enough to be literally wrapped around the part, the tendency is for them to be weakened from repeated flexure and to break short off, leaving the pin free to work back through its hole. Besides, the extended ends are a menace to the flesh.

Binding Screws that Need Watching.

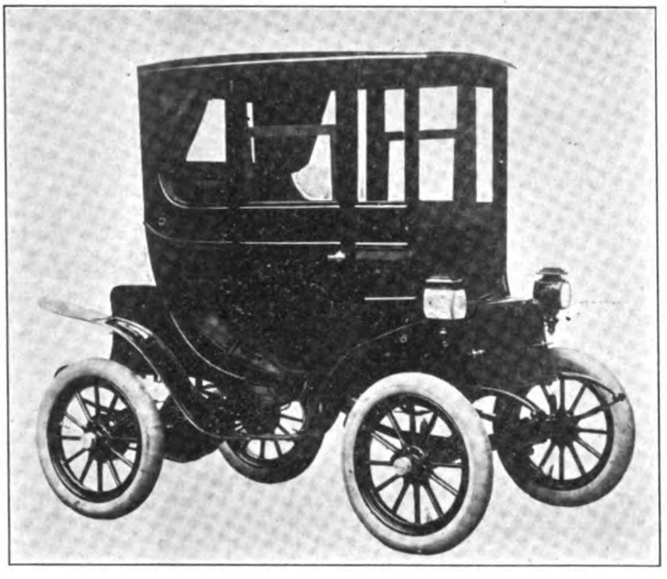
Magnetos which are designed to be readily detached must be watched to see that the binding screws do not become loose. Should this occur there is great danger of the gears becoming sufficiently out of mesh to permit of their climbing, which in a very short time will result in stripping the teeth.

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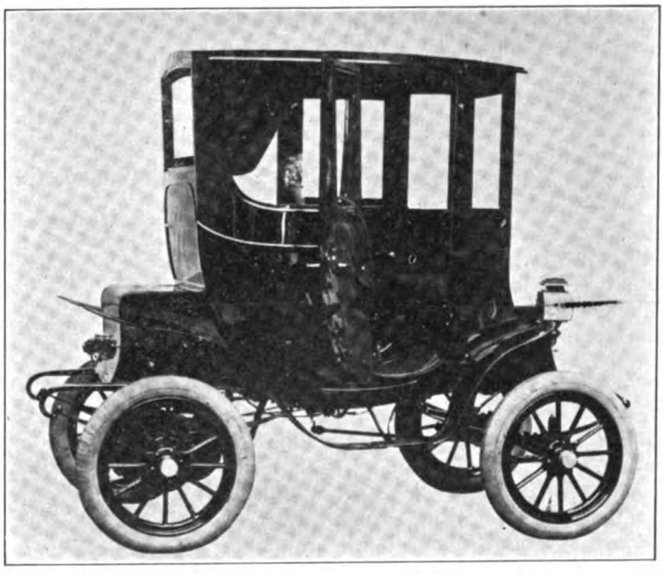
FOUR PASSENGER ELECTRIC COUPE

Waverly Branch of Pope Motor Car Co. Brings Out New Model—Its Convertibility a Feature.

In the convenience of the electric vehicle is found ample reason for its extensive use in and about cities. Realizing this, the makers of these machines are continually striving to produce new models which are useful and comfortable above all else. Particularly well suited to the purposes of the town car are the closed vehicles, an instance typical of this being found in the case of the new four-passenger coupe, which the Waverly branch of the Pope Motor Car Co. has just produced.



POPE-WAVERLY FOUR-PASSENGER COUPE



VIEW SHOWING SEATING ARRANGEMENT

This vehicle has the outward aspect of the familiar light, two-passenger coupe, except that the fore part of the body is designed more after the fashion of the extension brougham. By this means, space is secured for an extra seat affording room for two additional passengers, who sit facing the driver. The interior is, in fact, practically the same as that of a horse-drawn brougham, except for the steering lever and controlling devices, and is equally as roomy. For runabout, theatre and shopping as well as general runabout service, it is the equivalent of an electric cab minus the driver. As it is scarcely more cumbersome than the two-passenger coupe, it serves as well for two or four-passenger service. Being essentially a sociable affair also, it is admirably adapted to what is known in carriage parlance as "general family service."

A pleasing variety is made possible by the fact that the top is demountable. When removed, the effect of an open victoria is secured, which, for warm weather uses, may be enclosed by a full leather top if desired. In either case, there is nothing suggestive of a concerted body, either in ungainliness or awkward protruding fittings. The accompanying illustrations show its appearance with the full wood top, both externally and internally.

Its specifications include single motor, of special design and double overload capacity; "herring bone" gearing and 30-cell, 11-plate battery, of 10 and 20 cell groups, arranged in the front and rear compartments. There are two foot and one electric brakes, side steering lever, and a combined voltmeter and ammeter, for indicating the condition of the charge. The body sill is dropped in the center, giving a lower center of gravity and easier entrance than the straight sill type, the length being 89 inches, and the inside seat width 44 inches. The wheel base is 68 inches, and the tread 54 inches.

Double Drive for Extra Speedometer.

To save the nuisance of having to peer over the shoulders of the driver in order to catch a glimpse of the speedometer which is mounted on the dashboard, it is convenient to have a second instrument mounted in the tonneau. For this purpose at least one maker is marketing a special form of double drive whereby the installation can be made readily. It is possible to employ the principle without using this device, however, by using two independent instruments, one driven from either of the front wheels. In this case, the readings of the two will be found to form an interesting check upon one another.

Why the Lamp Sometimes Smokes.

Motorists frequently experience no little difficulty from the smoking of oil lamps when first lighted—regardless of care taken not to have the wick too high when igniting it. The difficulty arises through a variation in the rates of feed when the lamp is hot and cold. As the burner gradually becomes heated, the oil volatilizes more rapidly than before, possibly becoming somewhat thinner as well, so that a larger flame is developed, even without altering the position of the wick. If the height of the wick is readjusted some minutes after lighting, and before the car is started, there should be no trouble from this source. Care in this respect is important, because a smoky lamp practically eclipses itself.

Wiring Diagram on the Car.

Every car owner should be sufficiently familiar with the construction of his machine to be able to reach any part in an emergency with the least possible loss of time and labor. Frequently there are several long ways and only one short way of getting at an enclosed part. The owner should know how to go about his repairs in the most systematic and time saving manner. As a ready reference in time of need and a handy reminder when overhauling the mechanism, it has been recommended frequently that a wiring diagram be carried permanently mounted on some part of the machine. This is well enough as far as it goes, but it should be supplemented by a diagram of the layout of all oil and fuel piping.

Necessity for Tight Pipe Connections.

It is absolutely necessary that the pipe connections between the bottom of the radiator and the pump be kept perfectly tight. Otherwise whatever leakage exists will result in the introduction of small amounts of air into the cooling system, which may cause air locks and so a complete stoppage of flow. Generally speaking, such leaks will only be manifest when the motor is at rest, as the suction is sufficient to hold back the water when it is running.

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RIGHTS IN UNPATENTED DESIGNS

Appeals Court Declares Imitation of Rushmore Lamps Illegal—Views as to Unfair Competition.

In the manufacture of automobile lamps, as well as in the field of other motor car accessories, there has for some time been a very delicate situation because of the similarity in design which the products of various makers bear to each other, and a decision rendered in the United States Circuit Court of Appeals, in New York in the litigation of the Rushmore Dynamo Works, of Plainfield, N. J., against the Manhattan Screw & Stamping Works, of New York, is illuminating as making clear the legal idea of how far imitation may be restrained when the article imitated is in some of its features not covered by design patents and the restraint is sought on the grounds of unfair competition.

An order was granted in the district court for a preliminary injunction against the Manhattan Screw & Stamping Works, preventing the latter from making lamps resembling the Rushmore "flare front" design and from using the words "flare front" themselves. An appeal from this order was taken by the defendants, with the result that the words "flare front" in lamp description were decided as being not subject to the exclusive use of the Rushmore Dynamo Works, but maintaining the latter company's contentions as to the exclusive right to the "flare front" design which it has made popular. That there are limits to the "unfair competition" argument to restrain competition, however, is plainly indicated by the decision on the appeal, which is as follows:

Before Coxe and Noyes, Circuit Judges and Adams, District Judge.

On appeal from an order granting a preliminary injunction enjoining the defendant, its officers, employes and agents "Not to manufacture, sell or use, exhibit or advertise any automobile lamp or lamps having enclosing cases or shells made in imitation of or resembling, or a colorable variation of, the Rushmore 'Flare Front' search light lamp exhibited to this Court herein and of which a sample has been offered marked 'Exhibit A,' except in so far as such lamps may be the genuine lamps made by complainant, and not to use in connection with any lamp made in imitation of or resembling or a colorable variation of said 'Exhibit A' Rushmore Lamp, the words 'Flare Front' and not to print or publish or have printed or published in catalogues or advertisements or elsewhere, any cut or representation of any lamp in imitation of or similar to said 'Exhibit A' Rushmore Lamp, and not to print or publish in any catalogue or advertisement or elsewhere the words 'Flare Front,' or similar words in connection with the representation of any lamp made in imitation of or similar to said 'Exhibit A' lamp, except in so far as such representation and such words may be used to advertise or in connection with genuine Rushmore lamps made by the complainant."

Hans V. Briesen, for Defendant-Appellant.
Alfred Wilkinson, for Complainant-Appellee.

Coxe, J.

In December, 1905, the complainant adopted a design for the shell of an automobile lamp and in the following January exhibited it at the exhibition of automobiles at Madison Square Garden, New York. This is the complainant's lamp in controversy. Its exterior is pleasing to the eye and it is unquestionably a high grade lamp, but there is nothing strikingly novel or ornamental about it. In general contour it resembles the search-light which has for years been in use upon excursion boats and vessels of war, the principal difference being in the addition, by the complainant, of the so-called "flare front," the glass front of the lamp being larger in diameter than the body of the lamp except as it flares out near the front to meet and inclose the glass. No patent has been granted to Rushmore either for a combination, for a new article of manufacture or for a design for the shell of the lamp. It is possible that had application been made a design patent might have been granted and sustained.

In West Disinfecting Co. vs. Frank, 79 C. C. A. 359, this court recently held valid a design patent for a somewhat similar structure.

The defendant is manufacturing a lamp which, though differing in several details of construction, unquestionably resembles in external appearance the Rushmore lamp. If a valid design patent has been issued to the complainant we have no doubt that the defendant's of difference are unimportant, we will consider the question involved o- on the theory that the shells of the two lamps are substantially identical.

The defendant has adopted "Phoebus" as its trade mark and its lamp is known to the trade as the Phoebus lamp. All of its lamps have conspicuously displayed on the top thereof a name plate with a black background inscribed "Phoebus, the lamp of Quality, Model 601, Manhattan Screw & Stamping Works, N. Y." The officers of the defendant deny that they, or any one connected with the defendant, have ever in any way represented their lamps as those of the complainant. There are allegations in the bill, made upon information and belief, that the defendant has palmed off its lamps upon innocent purchasers as the Rushmore lamps, but there is nothing in the affidavits worthy of the name of evidence to establish these allegations. The affidavits, in our judgment, also fail to establish an exclusive right to the use of the name "Flare Front." The complainant savs in his affidavit, "I am aware that what might be called 'flaring fronts' have been used on other forms of lamps entirely different in appearance from my Exhibit A lamp, for instance the old carriage lamps, but I am positive that I am the first who has ever used these flare fronts on any lamp similar in appearance to my Exhibit A." Assuming the correctness of this statement we do not think the fact that complainant was the first to put a flaring front on a shell of his design entitles him to a monopoly of these words. We regard them as descriptive merely and are of the opinion that an injunction should not issue at least until proof, more cogent than anything which now appears in the record, is presented, showing that they have acquired a secondary meaning.

So far then as the prayer for an injunction is based upon the use of the name "flare front" and the allegation that the defendant has actually deceived purchasers by representing that its lamps were made by the complainant, the most that can be said is that the questions are involved in doubt. This court has uniformly helu that an injunction should not issue in a doubtful case.

Hall Signal Co. vs. Railway Signal Co. 153 Fed. 907.

Cleveland Foundry Co. vs. Silver, 134 Fed. 591.

Hildreth vs. Norton, decided Feb. 11, 1908.

As we read the opinion of the judge of the Circuit Court he finds no actual fraud and no evidence that the defendant is now using the word "flare front." He says:

"Assuming that at the present time the defendant is not using the word 'flare front,' is not selling its product as Rushmore lamps, and is not using in any way either of these words or phrases, the question is whether plaintiff is entitled to be protected from unnecessary imitation of non-functional parts of his well known lamp. It seems to me that under the cases of Enterprise Manufacturing Co. vs. Landers, 131 Fed. Rep., 240, and Marvel Co. vs. Pearl, 133 Fed Rep., 160, he is so entitled."

We are thus confronted with the naked question of law—can one who manufactures and sells a well known article of commerce, like an automobile search light, inclosed in a shell of graceful, but unpatented design, maintain a bill for an injunction, profits and damages against a defendant who sells automobile search lights inclosed in a similar shell, with his name prominently appearing thereon as the maker, and who has never represented that his lamps were made by the complainant?

We feel constrained to answer this question in the affirmative upon the authority of Enterprise Co. vs. Landers, supra, and Yale & Towne Mfg. Co. vs. Alder, 154 Fed., 37. Both of these cases were decided by this court and we see no way to distinguish them, on principle, from the case at bar. We are of the opinion, however, that to answer this question in favor of the complainant carries the doctrine of unfair competition to its utmost limit.

If it be pushed much farther those engaged in trade will be encouraged to run to the courts with trivial complaints over the petty details of business and thus will grow up a judicial paternalism which in time may become intolerable.

This cause or onei nvolving the question at issue may be easily brought here on appeal from the final decree and heard at the next term. After the witnesses have been cross-examined we may be able to tell with much greater certainty whether the competition of which the complainant complains is produced by the similarity of the shells of the two devices or by the fact that defendant is selling its lamps at a much lower price.

It appears from the record that purchasers of automobiles belong to the wealthy class, who are not particular about the price paid so long as they secure durable and efficient machines. They are not the class of buyers who might purchase a padlock, for instance, after a casual inspection and it is not easy to understand how such fastidious buyers with the Phoebus name plate before them can be deceived into thinking that they are purchasing the Rushmore lamp.

If it should appear, after full hearing, that the effect of the injunction will be to stifle legitimate competition rather than to punish unfair competition we will not hestitate to dissolve it, but upon the affidavits now before us, the majority of the court is of the opinion that the case is controlled by the former decisions of this court.

The order should be modified by excluding from its provisions the prohibition against the use of the name "flare front" and, as so modified, is affirmed.

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STODDARD-DAYTON ENTERTAINS

Many Pleasures Provided at Second Annual Convention of Agents—Matters of Mutual Interest Discussed.

Agents' conventions, which occur with increasing frequency from year to year, may be said to have the uniform purpose of familiarizing the selling organizations of the various manufacturers with the details of the products and selling plans of the coming year and of unifying the efforts of the various salesmen and directing them into the most efficient channels. In this respect all such meetings closely resemble one another. In detail method they differ according to the scope and efficiency of the companies holding them. As illustrative of the usefulness of these gatherings, which usually receive such curt notice from the press, and also as casting an interesting side light on the rapid growth of a concern which is very much alive to the possibilities of the automobile business, it is useful to record the doings of the second annual convention of the Stoddard-Dayton agents, held at the Ohio home of the Dayton Motor Car Co., and the cash register

Wednesday, Thursday and Friday of last week, 29th to 31st ult., were the days set apart for the formal proceedings. The program actually commenced on the preceeding Tuesday evening, when the public of Dayton was invited to view the setting of the forthcoming convention—and accepted in goodly numbers.

Primarily, this setting was an individual automobile show. The 1909 models—some 16 varieties, embodying various methods of mounting the five styles of chassis which compose the full line for next year—were shown in completed condition on the sixth floor of the new wing of the factory. Not only this, but the accessory adjunct which forms so important a part of every well ordered show, was well stocked with samples of the fittings and equipment which are to go on the new cars regularly, as well as some that might be included at the option of the purchaser. By way of rounding out the exhibit there were structural parts of the cars by the score. A sectional working model of the valve-in-the-head motor adopted last year, crank shafts and connecting rods in various stages of completion, even the dies and jigs by which they are formed, and various other parts and materials in raw and complete stages, served to make complete the display.

While full information as to the new models will not be forthcoming for a few days, it is possible to state that they will be known as: "A," "F," "K," "C," and "H," each distinguished by the prefix "9," to indicate the year of production. The first and the last two will be entirely new cars; the others improved forms of previous models. A striking point in this connection is that the design and construction of the cars will be strictly uniform. That is to say, practically three sizes of the same car will be produced, no difference in design, method or materials of construction other than such as may be determined by differences in power and weight being present. Thus the prospective buyer is to be offered the Stoddard-Dayton car. After examination he may choose the size best suited to his purse and fancy. For the man of moderate requirements there will be a wonderfully attractive little offering at a price to match. To make the line complete, a good variety of bodies also has been developed, bringing out a number of demountable combinations, and among them that promising idea the "baby tonneau."

It was on the same floor with this display that the formal sessions of the convention were held. Here, in the presence of chart and blackboard "first-aid" to the imagination were demonstrated the ideals upon which the present designs are founded. Here, also, occurred the usual discussions incident to purely "family reunions" such as pertain to the successful handling of competition, the fine points of marketing, prices, talking points, territorial boundaries, and the ever fruitful topics of equipment and accessories.

In these discussions unusual pains were taken to obtain an expression of opinion from all the agents as to the proper decision of such questions. It did not follow, as was explained, that the opinion of the majority would directly govern the policy of the company in laying its plans for the future, but it was given to understand that such considerations would weigh heavily in all determinations directly affecting the matter of sales.

In thus getting into closest touch with the ideas of the selling forces the real convention spirit was brought out in a way not possible where, as is sometimes the case, the manufacturer preserves the attitude of instructor only, and treats the criticism of the agents in the same spirit as their requests for instruction. Indeed, the spirit of co-operation here emphasized was manifest to a surprising degree throughout the entire meeting. Its outward indication is evidenced in the loyal attitude of agents and factory employes alike.

President C. G. Stoddard touched upon this spirit of loyalty at the banquet when he said that without the intense feeling of personal responsibility and fidelity to the company as shown to a striking degree by the forces at home and in the field, the rapid progress of the concern would have been an absolute impossibility

The banquet, which was tendered on Thursday evening at the Dayton Club, brought more than one forcible tribute to the unity of purpose which has been instrumental in building up in a quiet way a force which is very much to be reckoned with in the present stages of the industry. The ideal method of building an organization worthy of emulation was crystalized by R. T. Houk, of the factory force, who pointed to the fact that an organization can be complete only when every member realizes the importance of the particular duty assigned to him — no matter how insignificant it may appear—and is willing, even eager, to do his best to carry it on. Nor can an organization be complete when its leaders hesitate about ridding themselves of assistants who are not fully competent to carry on their tasks.

"The fact that a man is bad only in spots," he said, "ought not to justify his being retained for further trial or for use in a new position—an egg which is not fit to boil, don't do to scramble. It is all too easy to make excuses for retaining a man who is half good; he is a good fellow, he tries so hard, he is willing, or maybe he is handicapped in some manner beyond his control —but that is not perfection. And the perfect whole is composed of only perfect units. This is a relentless principle."

Another important point was brought out by E. R. Blaine, of the Blaine-Thompson Co., Cincinnati, who spoke of team work in advertising. "Here is a national broadside of magazine advertising," he said, "directed toward the general publicity of the product. It is destined to benefit the entire organization to an almost equal degree. But the agent who permits it to go by without grasping the opportunity of advertising himself locally as the representative of the company is missing a golden opportunity. The effect of this general work is entirely lost in his section unless the local man takes it upon himself to identify himself with the product. There must be team work among these widely scattered forces or half the effort will go for naught."

The convention was attended by three score and more of the regularly constituted agents of the company to whom were added a goodly number of invited guests, newspaper men and others who were provided with ample entertainment and a cordial welcome at the factory. Here it was plainly to be seen that the new cars constituting the "show" were neither dummies nor hastily completed models. From the stacks of assembled groups on the erecting floor clear down the line to the foundry every hand was busy with the 1909 product, already well on in the making.

Live "Ads" at British Race Meets.

Sharp rivalry in British trade circles has called forth various advertising dodges, some of them ingenious, some following out lines which have been found successful in other sorts of business. One firm of tire makers has lately resorted to the use of "sandwich men," a corps of whom parade about at race meets and other sporting events, each carrying the usual placard, in addition to which a tire casing is slung around his neck.

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MILITARY VALUE OF AUTOMOBILES

General Grant Gives His Views to the Motor World—Some Inside History Explains Pine Camp Reports.

That automobiles are not only practicable for the needs of the army, but that their use adds greatly to the efficiency of fighting bodies, is the assertion of Major General Grant, who commanded the regulars and State troops at the recent manoeuvers in Pine Camp, New York. Incidentally General Grant refuted the statements that have appeared in the daily press to the effect that automobiles were not practicable for army purposes. When interviewed by a Motor World representative on the subject of automobiles for army purposes, the General said:

"The automobile is a necessary adjunct to the equipment of an army. Its uses are manifold in this connection, but its main and distinctive value lies in the fact that by its use a commanding general can keep in personal touch with his entire troops, which is not alone desirable, but necessary, since he must have absolute and accurate knowledge of all conditions as they exist among the bodies under his command.

"In the wars which have occurred up to this time, the man on whom rested the responsibility for the success or failure of a battle, largely was dependent on the reports of conditions brought to him by his subordinates. An army or an army corps on the field of battle, occupies an immense territory, they are spread over a large area and the outposts are many miles apart. The only way that one man could himself observe the different positions of his troops and the relation of these positions to each other, prior to the development of motor cars, was by riding about on horseback. This mode of traveling not only exhausted the vitality of the rider, but made necessary a more or less elaborate system of relay horses, and even under these conditions, the journey would occupy more time than, at a critical moment, should be given to such an inspection by a general whose responsibilities and duties are necessarily enormous. Incidental to this there also existed the drawback of the troops altering their positions during the two or three days that would be required to make such an inspection on horseback.

"But the automobile changes all this. In ten hours, even though the roads were in but fair condition, a distance of two hundred miles easily could be traversed. True it is that such a trip would be hard both on man and machine, but hardships are the main part of warfare, and where the disagreeable part is mitigated by the possibility of riding on soft cushions, shielded from the direct rays of a blood heating sun, or protected from a drenching downpour of rain, such a trip could be undertaken and accomplished and the results of it would at once become manifest by an increased efficiency of an army owing to its commander having seen the exact situation of his troops. Incidentally the moral effect of a visit from a major general, on subordinate officers and the men of their commands is excellent and tends to increase the feeling of personal responsibility in the man. And this is a keynote of success. In short, the automobile furnishes the means of personal contact between the leaders of an expedition and the men on whom the success of the undertaking depends, and this mutual acquaintanceship is of immense value."

General Grant then was asked his opinion of the value, for army purposes, of motor trucks. There was no hesitation in the response which came in the characteristic slow way, a trait of the Grant family.

"The automobile truck cannot successfully compete with the government mule. The much despised, much caricatured army mule is equal to about 50 horsepower in an automobile, when it comes to taking a heavy load up a steep hill over bad roads. I don't want to be quoted," continued the general, "as stating with mathematical precision, or as a result of studied experiments that one mule equals 50 horsepower under the conditions I named, but I mean to illustrate that the mule is a reliable machine of known power when a hard hill climb is to be encountered, and we army men will need a lot of convincing before we will agree that he should give way to a high powered gas engine.

"For ambulance service and for the freighting in connection with the habitation of an army post, the motor vehicle, the light or even heavy truck, is ideal. But at this time I know of no motor truck suitable for the needs of the army on the march or on the battlefield."

Asked about the authenticity of certain adverse reports which have appeared in the newspapers, in regard to the service rendered by motor vehicles in connection with the recent Pine Camp manoeuvers, he said:

"The reports, in a measure, were true, but they failed to state why or under what conditions the machines were not practicable for our use, and I'll tell you the inside history of my automobile experiments in Pine Camp. This is the history which formed the basis of this adverse comment. There was some difficulty with the cars, but about 90 per cent. of it was due to the chauffeurs. The cars were all right, the machinery worked well; and when I was a passenger in the car there was no trouble, no delay, no break, everything was all right. But when I would order the car on the following morning, I would be told that something was out of order. I wondered how accidents could occur while the car was standing idle in its shed, but no one seemed able to tell me, so I concluded that may be this thing they call 'joy riding' was responsible for the trouble. Now 'joy riding' is an easy thing for an army officer to overcome. I merely detailed a sentry with a loaded gun to guard that car. I told him not to let any one touch that machine without an order over my signature. Chauffeur and every one else was barred, and immediately conditions were changed. When I ordered the machine it came. I suffered no delay, no mishap; and only two or three punctures caused a temporary layup. The armed sentinel is an excellent insurance of motor car efficiency."

"What do you think is the best design for army purposes?" asked the interviewer.

"I believe that the most useful car would be one having a light, strong body, designed to carry four people. Such a car would carry, in addition to the chauffeur, the general and two aides-de-camp. The car should be high powered and carry a large quantity of fuel. There should be some arrangement for transporting a little baggage with blankets and other essentials to 'part comfort' if sleep by the roadside became necessary. If possible there should be some devise incorporated in the tires to prevent punctures, even though resiliency of the tires was effected by the introduction of a steel band or some similar contrivance, the added discomfort to the riders would be compensated for by immunity from delays. That is about all that it needed. In Pine Camp I used a seven passenger car, it was very comfortable and very delightful, but it was too luxuriant for military purposes."

"One thing more," said the interviewer, as he prepared to leave, "What about 'the chauffeur question;' would you always have to guard your machines to prevent 'joy riding?'"

"Hardly," said the General, and he smiled. "The machines in Pine Camp were operated by civilians,. My machine was guarded and gave good service; the one used by Colonel Glenn was not guarded and gave less satisfactory results. When the cars are owned by the army they will be operated by men in the service. We now are training men of the engineers' corps to handle automobiles, and I greatly doubt if soldiers will disobey orders with the same nonchalance that civilians disobey them. I think the 'chauffeur problem' would not present insurmountable difficulties."

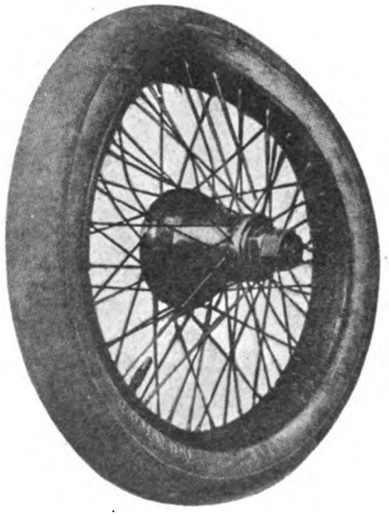
That the General's belief in this solution of the question is well founded, is shown by the results obtained by President Roosevelt, who has for his use two White steamers which the government owns. The drivers of these machines are, or rather were, chauffeurs who were trained by the White Co. These men now are sworn in as members of the secret service and are detailed to operate the machines. The uniform reliability of the cars may be taken as an evidence that they are handled properly and it is safe to say that a secret service man would find it more serious to disobey an order than would a civilian chauffeur.

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RESISTANCE TO SKIDDING STRAINS

Comparative Tests of Wood and Wire Wheels—The Method Employed and the Results Obtained.

Wire wheels, though not in vogue in this country within the past few years, are still employed in England to a considerable extent, one popular mode of application being in the Rudge-Whitworth detachable arrangement, which is the idea of the demountable rim carried to its extreme application. The considerable use of this affair



WIRE WHEEL SHOWING RESULT OF TESTS

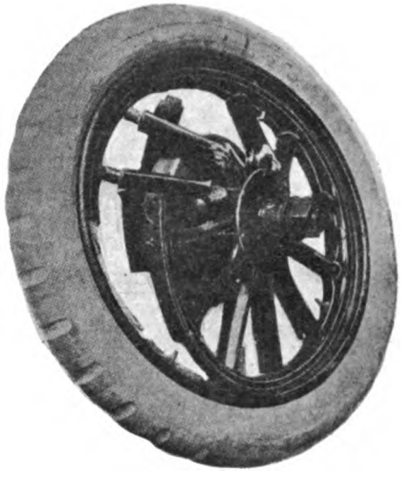
has served to keep alive the old controversy as to the relative strengths of wood and wire wheels, a series of tests recently carried out by the makers of the device in question, forming a useful and rather surprising contribution to a subject which has been permitted to languish elsewhere for some little time.

Four wheels were tested, according to the Autocar, from which the accompanying illustrations are reproduced—one R.W. wire and one wood front, and one R.W. wire and one wood back. Both wire wheels were of the detachable variety. The size of the front wheels was 870x90 mm., and of the back wheels 880x120 mm., the tire pressure being about 80 pounds. The weight of a set of four Rudge-Whitmore wheels is 101.4 pounds, and of the four inner hubs is 48.3 pounds, making a total of 149.7 pounds. The weight of a set of four wood wheels is 179.84 pounds.

The apparatus employed, was really a crude form of pendulum impact machine. A pendulum was hung from the ceiling of one of the shops and sustained a weight of about 450 pounds. The wheel to be tested was mounted on a massive steel mandrel turned down at the end to take the wheel hub, and anchored to a solid bed of concrete. The pendulum bob was adjustable for height, so as to bring it opposite the rim flange of the wheel under test. Pulley tackle was used to haul the bob away from the wheel, and was fitted with a simple device for releasing the bob, which swung with great force, over a distance of about 6 feet, up against the wheel.

After each wheel had been tested in this manner, it was again mounted on the mandrel, but with the point which had been struck by the bob at the bottom, so that the blow would be struck at a point diametrically opposite to that at which it was struck in the first test.

The formula used in calculating the



WOOD WHEEL SHOWING RESULT OF TESTS

energy imparted by the bob at each blow was:

$$E = \frac{W}{2R} L (L - 2d),$$

where W = weight in pounds of pendulum bob (about 450 pounds); L = distance in inches between the rim of the wheel and the side of the pendulum bob before being released (about 6 feet); d = distance in inches betwen the rim of the wheel and the side of the pendulum bob when hanging free (about 3 inches); and R = length between point of suspension of pendulum and center of gravity of bob (about 16 feet).

The relative merits of the two wheels to withstand what would be equivalent to violent side-slipping on the road were judged by observation of the effect of each blow, measurement of the permanent deflection at the point of impact, and the amount of energy imparted at each blow. These results are given herewith in tabular form, the results of the first test, i. e., hitting the side of the new wheels, being given first, followed by the results of the second test—hitting the damaged wheel at a point on the same side, but diametrically opposite to the point at which the blows in the first test were struck.

From these tables it will be seen that the energy imparted, in the case of the front wheels, to the wire wheel, although con-

WOOD AND WIRE WHEELS COMPARED

Wood Wheel A. 870 x 90 mm. Front. (First Test) Three Blows.

Distance from Rim to Weight.	Energy of Blow in ft. lbs.	Total Permanent Deflection of Rim.	Result of Blow
ft. in.		inches	
5 3¼	476	.53	Top spokes parted at hub
5 9½	573.1	1.18	Spokes parted more, two bottom spokes split.
6 3½	667.6	3.72	Three top and two bottom spokes broke right through Felloe intact.
	1716.7		

R.W. Wire Wheel B. 870 x 90 mm. Front. (First Test). Four Blows.

Distance from Rim to Weight.	Energy of Blow in ft. lbs.	Total Permanent Deflection of Rim.	Result of Blow
ft. in		inches	
5 3¼	480	.26	Nothing broken.
5 9½	575.4	.57	Nothing broken.
6 3½	683.1	1.50	Four spokes sheared near hub
6 9½	798.2	3.56	Two more spokes sheared at head, and one pulled through rim
	2537.0		

Wood Wheel C. 880 x 120 mm. Rear. (First Test). Four Blows.

Distance from Rim to Weight	Energy of Blow in ft. lbs.	Total Permanent Deflection of Rim.	Result of Blow
ft. in.		inches	
5 1½	478.5	.36	Nothing broken.
5 8½	591	.63	Three top spokes cracked.
6 2½	700.3	1.09	Four top spokes (in all) broke nearly through.
6 10	843	7.29	Wheel smashed, felloe split all the way round. See photograph.
	2612.8		

Wire Wheel D. 880 x 120 mm Rear (First Test). Four Blows.

Distance from Rim to Weight.	Energy of Blow in ft. lbs	Total Permanent Deflection of Rim.	Result of Blow
ft. in.		inches	
5 2½	474.6	.23	Nothing broken
5 9¼	579	.52	Nothing broken
6 3½	688.7	1.12	Four outside spokes sheared near hub. Hub end bulged
6 9½	817	2.37	Seven outside spokes (in all) sheared near hub
	2559.3		

Wood Wheel A. 870 x 90 mm Front (Second Test), at Point Diametrically Opposite to First

Distance from Rim to Weight.	Energy of Blow in ft. lbs	Total Permanent Deflection of Rim.	Result of Blow
ft. in		inches	
5 2½	483.8	2.72	Nothing further broken
5 8½	532.6	6.29	Top spokes cracked nearly through.
6 2½	577.1	over 8in	Wheel smashed. Felloe intact
	1593.5		

Wire Wheel B. 870 x 90 mm. Front (Second Test), at Point Diametrically Opposite to First.

Distance from Rim to Weight.	Energy of Blow in ft. lbs	Total Permanent Deflection of Rim.	Result of Blow.
ft. in		inches	
5 5½	478.8	.95	Nothing further broken
5 9½	558	1.75	Two inside spokes sheared near hub
5 4	663.4	2.05	Tyre burst. No further damage done to wheel
	1700.2		

Wood Wheel C. 880 x 120 mm Rear (Destroyed during First Test

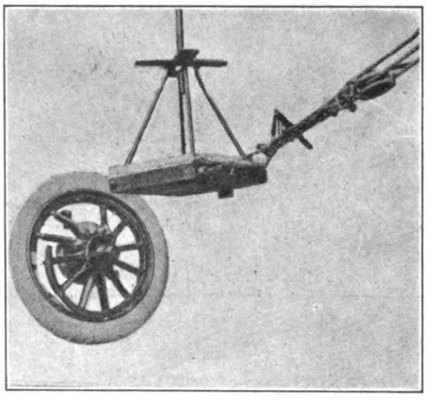
Wire Wheel D 880 x 120 mm Rear (Second Test), at Point Diametrically Opposite to First

Distance from Rim to Weight	Energy of Blow in ft. lbs	Total Permanent Deflection of Rim	Result of Blow.
ft. in		inches	
5 2½	480.6	.35	Nothing further broken
5 9	579.5	.65	Nothing further broken
6 3½	686.4	1.02	Nothing further broken
6 9½	803.7	1.67	Two inside spokes sheared near hub
7 3¼	914.9	2.22	One outside spoke sheared near hub.
	3465.1		

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siderably greater than imparted to the wood wheel, caused a deflection of the wire wheel .16 inch less than in the case of the wood wheel. Although this difference is small, it must be remarked that the damage was much more "local" than in the case of wood wheels, the blow affecting only that part of the rim and spokes in the region of the point of contact of the bob and the spokes diametrically opposite. The damage was chiefly manifested by the spokes breaking away under tension from the heads at the hub, and in a few cases from the nipples at the rim. In only one case did a nipple pull through the rim.

The damage to the wood wheel, on the other hand, spread erratically over the whole wheel, manifesting itself by split felloes, also spokes pulling out of the felloes or breaking across at the dowel in the



THE TESTING APPARATUS.

felloe. These general effects were observed throughout all the tests. It was also observed that the wire wheels gave gradually to the impacts, and did not collapse suddenly, as was the case with the wire wheels. This was most noticeable in the case of wheel C (first test.)

After the second blow it was found that the only damage incurred was four broken spokes. The third blow shattered the wheel, the felloe splitting in two the whole way round and the spokes breaking. This wheel is shown in one of the illustrations. The results of the second test show that the wood wheel was fairly able to withstand blows at a point diametrically opposite the first blows —in fact, better than was expected—but nevertheless it was surpassed by the wire wheel, as is well exemplified in the foregoing tables of the second test, especially in the case of the wheel D (second test), which sustained four normal blows and a final smashing blow of 7 ft. 3 in., with no further damage to the wheel but three more spokes broken. Its wood companion wheel C was destroyed during the first test.

"Summing up it should be obvious that the wire wheel is equally able to beat the wood wheel in the matter of heavy sudden side blows, as in the many other comparative tests which it has undergone in company with wood wheels," says the Autocar. "These tests again serve to show that detachable wire wheels, properly built, are far superior to wood wheels for all-round year use."

To Prevent Bolts from Loosening.

It is a common failing of so-called stove-bolts to become loosened after a comparatively short amount of use in securing wooden and metal parts together, as in the case of the top irons and the metal work of the dash board. The failure is apt to come through the loosening of the conical head in its wooden seating, thus permitting the nut to obtain enough slack to rattle loose on its thread. A simple way of preventing this difficulty is to enlarge the slot across the head of the bolt, cutting the ends pretty deep by the aid of a file, and then bend over a short length of copper wire, which is of just the size to fit nicely in the slot. In this way a couple of ridges are formed on either side of the head, which effectively prevent it from turning so long as a reasonable amount of pressure is brought to bear upon it.

Endurance of the Ball Bearing.

It is commonly conceded that the life of ball bearings, when properly made and used, is far beyond that of the plain type. Just how long a well made bearing of the annular type will last under normal usage is difficult to say—probably longer than any other portion of the car, when applied to automobile mechanism, for instance. An interesting bit of testimony in this connection is supplied by the Hess-Bright Manufacturing Co., Philadelphia, Pa., in regard to the condition of a set of five bearings taken from the transmission of an automobile maker's demonstrating car. After more than 50,000 miles of service, the bearings were returned to their makers for examination. Only two were in a condition to indicate the advisability of refilling them with slightly larger balls, the other three appearing to be about as good as new.

Slamming the Tonneau Doors.

One of the errors to which nearly all automobile users are addicted is the slamming of tonneau doors. Probably the habit comes from the accepted practice of slamming the doors of broughams and other horse drawn vehicles which are so constructed that it does not injure them. With the ordinary type of touring car body, however, the door frames are not braced with sufficient solidity to withstand successfully the effects of repeated shocks from the door. As a result the frames of many bodies become loosened before their time. It is a good rule for the car, as for the house, that attention be paid to the injunction, "don't slam the door."

Looking After the Valve Tappets.

Engines which are provided with adjustable valve tappets have the advantage that the distribution of the gases in the cylinders may be regulated to absolute synchronism. There is this disadvantage to the arrangement, however, that the adjustments may work loose if not properly secured in the beginning. On this account it is well to make sure that the check nuts holding the tappet adjustments are kept tight at all times, and that any apparent irregularity in the output of the different cylinders be made cause for going over the timing gear.

Peculiar Construction in Non-Skid Tire.

Because of the vigor with which it is being introduced in England, Cryder & Co., of New York, are importing from Great Britain the Kempshall all-rubber, non-skid tire, the unusual tread construction of which is claimed to possess peculiar merits in preventing side slip or loss of traction. As shown in the accompanying illustration, the tire has a series of circular depressions in the tread, while in the middle of each of the shallow pits so formed is a turret-like



KEMPSHALL NON-SKID TIRE

rubber stud of generous proportions. The circular resisting edges and the central turrets are credited with great effectiveness in checking slipping or sliding on the greasiest road surfaces. The further quality of cooling the tread in high speed running is also ascribed to this construction since it presents a great area of radiating surface. In the building of the tire certain special features are claimed, including the use of alternate layers of rubber and canvas so disposed as to give maximum strength.

Trouble from Valve Stem Expansion.

That puzzling engine difficulty which is manifest by a loss of compression when the cylinders are hot, when they are known to have been tight when cold, is readily explained by the expansion of the valve stems during the warming process. Unless a proper amount of clearance is allowed between the ends of the stems and the tappets, this may be sufficient to prevent the valves from setting. This difficulty has befooled the wisest of drivers.

Many Makers Using Shock Absorbers.

Shock absorbers as part of the regular equipment for the 1909 cars of the George N. Pierce Co. are announced by the Hartford Suspension Co., of New York, whose Truffault-Hartford absorbers are to be used for the fifth consecutive year. In all, 20 concerns are using Truffault-Hartford shock absorbers as equipment.

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POSITION OF THE SPARK PLUG

Its Effect Upon Resulting Power Output as Shown by Experiments—Variations Caused by Engine Speed.

One of the most enlightening chapters of experiment ever presented to the automobile industry resulted from the investigations of a year and a half ago from which W. Watson, the English scientist arrived at the, then, startling conclusion that the "fatness" of the ignition spark had absolutely no effect on the power output of the motor. Supplementing these investigations, a second article later appeared in which the influence of the character of the spark on the power developed was further treated. A third instalment has now appeared from the same source, in which the effect of the position of the spark plug upon the resulting power output is considered.

In the former experiments a low compression engine was employed, and one which, furthermore, was not available for speeds over 900 revolutions per minute. In the engine upon which the latest trials were made, a compression pressure of 87 pounds was maintained, while the machine was capable of being run satisfactorily at speeds up to 1,600 revolutions per minute. In reference to the apparatus and method of test, Mr. Watson says:

"The engine used is a four-cylinder one, the bore being 85 mm. and the stroke 120 mm. The ignition is by means of either a high tension magneto (Lacoste 1906 type) or a single coil and high tension distributor. The indicator diagrams . . . . were all obtained, except when otherwise noted, from one cylinder (No. 2) by means of the optical indicator used in the previous series of experiments.

"The previous experiments having indicated that the position of the sparking plug had an important bearing on the power developed, two spark plugs were fitted, one over the inlet valve (the usual position) and the other over the exhaust valve, the valves in separate pockets on opposite sides of the combustion space. These spark plugs could be used in series, so that sparks occurred simultaneously in the two pockets or either could be used alone, the change being made by means of a switch." . . . .

In the first test under discussion, with the motor running at 640 revolutions per minute, it was observed that only slight differences in power were obtained. With the spark over the inlet valve the indicated horsepower per cylinder was 2.8, the corresponding value of the mean effective pressure being 83.9 pounds per square inch. With the spark over the exhaust valve the indicated horsepower was 3.0 and the mean effective pressure 90.0 pounds per square inch. Finally, with both sparks occurring simultaneously, the indicated horsepower was 2.9 and the mean effective pressure was 86.7 pounds per square inch.

When the speed of the engine is increased to 1,100 revolutions per minute a marked difference is obtained with the different sparks. In the first place, when the charge is fired at the two points the work obtained is very considerably greater than is the case when only one spark is used. Thus:

	I.H.P.	M.E.P. lbs. sq. in.
Spark over inlet valve.....	4.6	79.4
Spark over exhaust valve ..	4.6	79.1
Both sparks	5.2	90.5

Further, a curious difference in the conditions of the gases in the cylinder during the working stroke will be seen. Thus the expansion stroke shows that well marked pressure waves existed in the cylinder during nearly the whole of the stroke. In the case of the spark over the exhaust valve, these waves are even more well marked. When, however, the two sparks occur simultaneously, practically all signs of waves in the cylinder disappear. It would thus appear that when the combustion of the charge is started in one of the pockets only, waves are set up which pass backward and forward across the cylinder. When the charge is fired in both pockets, then the waves would appear to interfere with one another.

When the speed is further increased to 1,620 revolutions per minute, the differences are even more marked, as is shown in the following table:

	I.H.P.	M.E.P. lbs. sq. in.
Spark over inlet valve	6.5	76.3
Spark over exhaust valve ...	6.4	75.1
Both sparks	7.3	85.7

At a speed of 1,100 revolutions per minute, the magnitude of the difference obtained with the sparks depends to a certain extent on the strength of the mixture. When the carburetter is adjusted so as to give the best mixture at this speed, the improvement obtained by using the two sparks is not quite so great. At higher speeds, such as 1,600 revolutions per minute, however, the improvement obtained with the two sparks was most marked with all strengths of mixture.

The improvement obtained when using both sparks at the higher speeds is due to the more rapid ignition of the charge. The fact that the advantage of igniting the charge in both pockets is greater the greater the speed is best illustrated by the indicator card from which it is readily apparent that at high speeds the more rapid rate of inflammation of the charge results in a higher pressure. For it is only at high speeds that this rapidity of burning of the charge is of such vital importance. With slow speeds it is quite possible that the more rapid burning obtained with the two sparks may be a disadvantage, for in practice the spark is often too far advanced at slow engine speeds, and hence the comparatively slow burning obtained when only one spark is used partly compensates for the too great spark advance. Such a case will occur if, as is sometimes done, the timing of the magneto is fixed. Some makers adopt this arrangement, the argument being that the spark occurs earlier and is much "fatter" when the armature is rotating rapidly, and hence that an automatic adjustment takes place.

Two tests, A and B, were made at 640 revolutions per minute with magneto ignition. In the first case the diagram was obtained using at this speed the spark adjustment which gave the best result at 1,600 revolutions, while diagram B was obtained by retarding the spark. It will be at once observed that if the magneto is adjusted to give the maximum power when the engine is running fast, then when the engine is running slow the power will fall off considerably, and there will be a tendency to knock. The difference in power is considerable, being nearly 14 per cent:

	M.E.P.	I.H.P.
In A	86.0 lbs. sq. in.	2.9
In B	97.4 lbs. sq. in.	3.3

In this connection the opportunity was also taken to make some further comparisons between the effects obtained with a coil and with a magneto, and it was found that with weak mixtures there was a decided improvement obtained by using the intense spark given by the magneto.

"Some insight into the reason why some engines are found to give so much more power with the magneto ignition was, however, given by the present engine," says the author. "The magneto has a wipe contact maker which is used with a single coil, the same high-tension distributor being employed as is used with the magneto. When this contact maker is used the diagrams obtained at a speed of 640 revolutions per minute from each of the four cylinders . . . . showed that the timing is hopelessly wrong, for while in cylinder 2 the spark advance is about right, in the other three cylinders the spark occurs much too late, and the diagrams illustrate the corresponding loss of power. At higher speeds the effects of the error in timing are very much more marked. Instead of attempting to readjust the wipe contact maker, a single make and break was fitted up on a counter shaft, and this shaft was driven at twice the engine speed. In this case the same make in the primary circuit of the coil is used for all four cylinders, and the only variation which affects the timing of the sparks in the different cylinders is the lag of the trembler blade, which may vary slightly from instant to instant, for, although the same trembler is used for all the cylinders, yet since the vibrations set up in the trembler during one 'make' will not in general have entirely died out when the next 'make' occurs, the rapidity with which the first trembler 'break', i. e., the first spark at the plug, occurs, will in a measure depend on the phase of the vibration of the trembler existing when the second 'make' occurs."

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BIG MASSACHUSETTS REGISTRATION

State Income from Motor Vehicles More Than $100,000 for First Half of Year—Many Non-Residents Registered.

Massachusetts is deriving from the registration of motor vehicles a bigger income than ever has been yielded from that source. Cars have been registered recently at the rate of about 50 each day, and the total number so far since January 1 has been 15,767. Returns for the first half year, which have reached the state treasurer, show that the fees collected in connection with the automobile activities by the Massachusetts highway commission since December 1 last, amounted to $100,782. This is more money than the automobile registration business has ever before brought in within such a short period. About 10 per cent. of the cars registered recently have been those of owners having residence in other States, but who have been coming into Massachusetts with their cars for tours or for a stay on a summer outing. About 300 registrations were reissues.

Since January 1, 366 dealers' licenses have been issued; 1,630 motorcycles registered; whereas for the corresponding part of the year 1907 the number of automobiles registered was only 4,953; of motorcycles, 535; and dealers' licenses, 58. The change in the law has had a good deal to do with the increase in the figures; still there has been without question a substantial gain in the number of cars used and operated in the State. A large gain is also recorded in the number of operating licenses issued. Up to the end of July of last year, 3,293 private operators and 3,977 professional chauffeurs had been licensed. This year, since December 1 last, the time of opening the official year's record, the total of private operators has reached 4,057 and of professional chauffeurs 4,480. It is worth noting that out of slightly under 2,000 new applicants for examination for professional chauffeurs' licenses the commission's examiners rejected about 30 per cent.

A new fee introduced this year is the 50-cent charge for duplicate sets of certificates for either cars or operators. This was authorized by the new law as a means of heading off what had grown to be a positive abuse. Operators and owners, losing their papers through mere carelessness, would run to the highway commission's offices for duplicate sets. So many of these requests came in that often the time required for getting out the duplicate was equivalent to the services of one clerk for hours on a stretch. The issue of hundreds of duplicates in this way made an appreciable increase in the office expense, and it was felt that a tax on the carelessness that made it necessary would be only fair. The only exemption from the fee is for police and court officers who need duplicate sets of certificates for handling cases in court.

New York's Automobile Revenue Shrinks.

Figures given out by the Secretary of State of New York show a falling off in receipts from automobile certificates. For the first six months of 1908 the receipts of the office are $900 less than the receipts of the first six months last year. Up to date the automobile department registered 8,245 automobile owners, as against 8,519 for the first six months of 1907. There is an increase noted in the number of chauffeur licenses issued, the number being 5,247 as against 5,191 for the first six months of last year.

There is also a decrease of 156 in the number of new companies organized in the State from January to July. The fees are heavy, however, and foot up more than $60,000 for six months. The fees in the motor vehicle department are also quite satisfactory, amounting to more than $27,000. For the period covered by the report the number of new corporations formed in the State is 6,634, the most of them being from New York and Brooklyn, with Buffalo, Rochester, Syracuse, Utica, Troy and Albany ranking in order named. The majority of automobile owners registered from Greater New York, with Buffalo and Syracuse and Rochester a close second, Utica and Albany following.

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GLENCOE IN MOTORPHOBIC FRENZY

Chicago Suburb Engaged in Bitter War for Continuance of "Traps"—Automobilists Fighting for Fair Play.

Out Chicago way "there's blood on the face of the moon." Bitter war is raging with the village of Glencoe on one side and the Chicago Automobile Club on the other. Legal machinery is in active operation and victims from each side are tangled up in the gearing. The automobilists are threatened with a variety of things, the village constables are threatened with doses of cold lead, and the village itself is threatened with bankruptcy. The hostilities began several weeks ago, as reported in the Motor World at the time, when Special Policeman Frank H. Moor, failing to halt an automobile driven by Thomas P. Henderson, fired several shots from his revolver, one of which struck Miss Buena Stribling, who was one of the passengers in the car, and who fortunately was not injured, the bullet glancing from a button on her dress waist.

Moor has been indicted by the grand jury on a charge of assault with a dangerous weapon; Henderson has been fined by Magistrate M. T. Lane, of Glencoe, for overspeeding, and is under a charge of "assault with intent to commit murder," in that he attempted, as alleged, to run over Moor with his automobile; the automobilists are after Lane's magisterial scalp, and one of them has anonymously notified Lane that if the village cops do any more shooting there will be rifle shots in return; the automobile club of Kenilworth has joined forces with the Chicago club to make war on "speed traps"; the Kenilworth authorities are in sympathy with this movement; the Glencoe authorities are drumming up pugilists in Chicago to knock the blocks off the pickets placed by the automobilists to give warning of the "traps"; water wagons and other obstructions are to be wheeled into the path of refractory scorchers; a gold medal for "heroism" is to be conferred on Special Policeman Moor; this and a lot of other things; and the conservative people of Glencoe are wondering who is to pay for Glencoe's share of the hullaballoo.

The legal amenities in the matter, largely tinctured with acerbity, are under the direction of Village Prosecutor Morton Culver on one hand, and Sidney Gorham, secretary of the Chicago Automobile Club, on the other. The two lawyers have had some snappy colloquies at several of the various hearings that have been made necessary by the cross fire of legal proceedings and both are in for a fight to the finish. Personally, however, the two are slinging their wordy arrows at each other without any personal venom on the tips. It may be that out of the chaotic conditions there will come a "modus vivendi" to be maintained by an observance of the speed laws on the part of motorists, and by a sensible and reasonably tolerant executive of the law by the village authorities. Meanwhile the controversy is furnishing column stories for the Chicago papers.

Applying Speed Limit to Street Cars.

That speed limitation is not intended to apply only to automobiles and motorcycles, at least in New York City, was evidenced on Sunday night, 2d inst., in the arrest of Martin Davy, a motorman on the Columbus avenue and Broadway line of street cars. Davy was made a prisoner during the night by Detectives Lehane and Coleman, of the West Sixty-eighth street police station. In the night court they told Magistrate Harris that they timed the car from Seventy-seventh street to Seventy-ninth street on Columbus avenue, and it went at the rate of 18 miles an hour. From Seventy-ninth street to Eighty-first street the car covered the distance at a speed of 21 miles an hour. Magistrate Harris paroled Davy for examination in the West Side Court. Many complaints have been received by the police of the high rate of speed maintained by the cars in the upper section of the city.

Captures Jury by Clever Defense.

By a defense that certainly is entitled to be considered clever, David Pryor avoided conviction on a charge of overspeeding within the corporate limits of Uvalde, Tex., the other day. His trial occupied two days and the case was decided by a jury which was convinced by the double contention that the prosecution could not prove that Pryor was driving the car because he was going so fast that no person could identify him; and that if really the car in question was his car it was being used without his knowledge or consent. Ten of the twelve "good men and true" in the jury box acquitted him by a majority verdict.

Automobiles Connect Texas Towns.

On Monday, the 27th ult., a new automobile service between Temple and Marlin, Texas, was inaugurated. The route will be through the towns of Oenaville, Blevins, Bellfalls, Chilton, Mooreville, and several very small places, a total distance of 35 miles. The enterprise is backed by J. F. Robinson, of San Angelo, who for some time has been operating a similar service between San Angelo and Big Springs. The new line will permit a saving of a full day's time between the terminal points.

Abington Gets Easy Money.

Local activity in the suppression of automobile speeding has been the cause of bringing into the little township of Abington, Pa., the tidy sum of $800 since the first of May. During that time, no less than 60 fines have been administered, ranging from $10 to $55, 57 cases have been dismissed, fines suspended in 20 cases, and warnings given in no less than 162 other instances.

FREEING PARKS FROM OILY ODORS

Enforcement of Anti-Smoke Rule Begun with Vigor—Automobiles with Trails of Smell Kept Out.

Enforcement of the new anti-smoke regulation of the New York department of parks was begun on Saturday, 1st inst., and 17 arrests were made in Central Park. Three of the victims were operators of sight-seeing cars. Of the entire number, 11 were discharged with a reprimand by Magistrate Moss in the Yorkville court. Six who were arrested after the Magistrate had adjourned court for the day, were in Yorkville Court on Monday and had their cases adjourned. Magistrate Moss announced that if the Park Department could not furnish more evidence than had been produced in the cases of the men who had been discharged, he would dismiss all the cases that are brought before him.

Only three arrests were made in Central Park on Sunday and the victims were drivers of motor cabs, two of whom pleaded ignorance of the new rule. Hundreds of gasolene vehicles were "shooed" away by the police at the park entrance. Lieut. Hefferon and 30 mounted policemen were on hand from early morning until midnight, and they did their best to keep chauffeurs from violating the new rule. Hundreds of machines, some public, some private, would have entered had it not been for the warnings of the mounted men. All who were stopped told the policemen that they had not heard of the new rule.

Some of those who were halted at the entrances and turned back were inclined to take offense at the insinuation that their automobiles were ill-smelling affairs. There were some heated arguments between such owners and the policemen, and several times Lieut. Hefferon was called on to pass upon the machines in question. In a few instances the machine under discussion was allowed to enter the park. But in most instances the decision of the policeman who had halted the machine was upheld by the Lieutenant.

But, in spite of the large number of automobiles which were turned back from the park, there were large numbers of motor cars to be seen on the park drives all day Sunday. They did not leave an odor of gasolene, however, and consequently escaped being included in the class regarded as a nuisance.

The park authorities say that the smell which many of the automobiles emit is entirely a needless nuisance, and that it usually arises from the fact that the mechanicians allow the lubricating oil to leak. This can be easily prevented. The leaking oil, coming into contact with the heated parts of the machine, sends out an odor which is far from pleasant.

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The Brush Runabout EFFICIENCY RUN

Started Last Saturday

INTRODUCING THE

MODEL B BRUSH RUNABOUT

FOUR runabouts and one delivery car started from Detroit Saturday afternoon, as follows: No. 1 for Boston, No. 2 for Washington, No. 3 for Kansas City, No. 4 for Minneapolis, No. 5, delivery car, for Milwaukee and return. Each car takes a roundabout route in order to take in a large number of good towns and demonstrate and exhibit the car in each one. With time taken out for demonstrating, it is expected that only about 90 to 100 miles a day will be covered, the total distance for each car being about 1,500 miles.

Car No. 3 will continue from Kansas City to Denver, and will then attempt the climb to the top of Pike's Peak, a feat which, we understand, no automobile has yet accomplished under its own power.

At present writing (Tuesday) all cars are running ahead of schedule, with no trouble reported.

A booklet will be issued at the close of the run giving gasolene and oil consumption, repairs, adjustments, mileage and other data. Send your name and address for it.

This run is intended to help our present agencies, interest new ones, and in general prove beyond a doubt that the Brush Runabout is what we claim for it—a car for work, not worry—a patient, ever-ready, never-tiring servant, quick, lively, easy to start, absurdly economical to run, requiring the minimum attention and giving the minimum trouble.

The Model B has much more graceful and in-style lines than the old model—divided seat, running board and winged fenders. WATCH IT!

BRUSH RUNABOUT CO., DETROIT MICHIGAN

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The Week's Patents.

887,067. Engine Starter. Clyde J. Coleman, Rockaway, N. J., assignor to Conrad Hubert, New York, N. Y. Filed Aug. 19, 1905. Serial No. 274,819.

1. An engine starter comprising a power storing device, a ratchet member connected thereto, and a rotary pawl carrier connected with the engine, the ratchet member having two oppositely facing ratchet teeth and the pawl carrier having a centrifugal starting pawl co-operative with one ratchet tooth and movable by centrifugal force out of engagement therewith and a centrifugal power storing pawl co-operative with the oppositely facing ratchet tooth and movable by centrifugal force into engagement therewith.

887,093. Transmission Gearing for Automobiles. Ernst G. Hoffman, New Rochelle, N. Y. Filed Dec. 9, 1907. Serial No. 405,686.

1. In a motor vehicle, the combination of a spring supported body, an axle, a road wheel journaled upon the axle, driving mechanism supported by the body and comprising a driving wheel mounted upon a substantially longitudinal axis and a driven wheel mounted upon a transverse axis with freedom for oscillation about said longitudinal axis, and operating connections between said driven wheel and the corresponding road wheel.

887,094. Motor Vehicle. Russell Huff, Detroit, Mich., assignor to Packard Motor Car Company, Detroit, Mich., a Corporation of West Virginia. Filed Aug. 21, 1907. Serial No. 389,561.

1. The combination with a motor vehicle frame, of a fuel tank arranged transversely on the rear end portion thereof, and one or more metal straps for securing said tank, each strap comprising two parts, hinged together, one of said parts extending over the tank and downwardly on one side thereof, and the other part extending downwardly on the opposite side of the tank, the ends of the strap being suitably connected to the frame.

887,159. Process of Making Flexible Wire Shafts, Hartwell W. Webb., Newark, N. J., assignor to Webb Manufacturing Company, Newark, N. J., a Corporation of New Jersey. Filed March 26, 1907. Serial No. 364,735.

1. The process of making a flexible shaft out of one or more strands of wire, which comprises the following steps: first, winding one or more strands of wire upon a mandrel; second, removing the mandrel; third, winding one or more strands of wire upon the first helix as a mandrel in a direction opposite to that in which the wire forming said first helix was wound; fourth, stretching the shaft so formed lengthwise to an extent slightly beyond the elastic limit of the structure as a whole.

887,160. Flexible Wire Shaft. Hartwell W. Webb., Newark, N. J., assignor to Webb Manufacturing Company, Newark, N. J., a Corporation of New Jersey. Filed Feb. 8, 1907. Serial No. 356,449.

1. A flexible shaft comprising in combination two helical coils of wire wound one upon the other, each coil of each helix being separated by a slight distance from the adjacent coils of the same diameter and from the adjacent coils of the next inner or outer helix.

887,165. Spring Suspension. James C. Whittle, Flint, Mich. Filed Feb. 25, 1907. Serial No. 359,239.

1. The combination with an elliptical spring, of toggle levers connecting the members of said spring, and means for attaching the connected ends of the said levers to a sill movable longitudinally of the sill adapted to transmit lateral movements of the sill in either direction parallel to the plane of the spring to the said lever ends.

887,184. Universal Joint. Charles A. Brewer, Noroton Heights, Conn. Filed Aug. 23, 1907. Serial No. 389,811.

1. A device of the character described, comprising two trunnioned heads, and a coupling therefor consisting of inner and outer members having an annular lubricant chamber between them, the inner member comprising two halves with tongue and groove meeting faces and having trunnion bearings which cammunicate with the lubricant chamber, the outer member inclosing the two halves of the inner member and holding them assembled, annular receptacles to catch or detain escaping oil being formed each side of the lubricant chamber.

887,227. Dust Removing and Exhaust Device for Automobiles. Peter N. Ramsey, New York, N. Y. Filed March 14, 1902. Serial No. 98,145.

1. A motor vehicle having a tube extending longitudinally of and below the vehicle body and open at its front and rear ends and having its discharge of substantially the width of the vehicle body and positioned to blow away the dust and dirt rising behind the vehicle.

887,237. Gas Engine. Harris T. Dunbar, Buffalo, N. Y. Filed March 26, 1907. Serial No. 354,622.

1. A gas engine comprising a cylinder having a fuel port and an exhaust port, and a piston arranged in the cylinder and having a spiral guide way whereby the fuel is caused to whirl in said cylinder, substantially as set forth.

888,374. Explosive Engine. Henry O. Westendarp, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed April 14, 1905. Serial No. 255,510.

1. In an explosion engine, the combination of a cylinder having exhaust ports and separate fuel and air admission ports at its forward end, a piston in the cylinder which moves over said ports to open and close them, a carburetter connected with the fuel admission ports, means for supplying compressed air through the air ports while the exhaust ports are open and also for supplying it to the carburetter to produce a fuel charge therein under pressure, and means which permits the fuel charge to pass from the carburetter to the cylinder after the exhaust ports are closed.

888,405. Motor Vehicle Driving Mechanism. Joseph P. Lavigne, Detroit, Mich., assignor to The Blomstrom Manufacturing Co., Detroit, Mich., a Corporation of Michigan. Filed June 12, 1907. Serial No. 378,674.

1. In a motor vehicle driving mechanism, the combination of a drive shaft actuated by the motor and supported in vertical bearings, a friction disc at the lower end of said shaft, a longitudinally disposed driven shaft below the drive shaft, positive drive connection between the rear end of said shaft and the rear axle, a frame in which a portion of said shaft below the friction disc is journaled, a friction pulley shiftable upon said portion of the shaft and adapted to rotate the same and means for raising and lowering the frame.

888,487. Carburetter. Charles R. Greuter, Wilkes-Barre, Pa. Filed June 5, 1906. Serial No. 320,322.

1. A carburetter comprising a mixer casing having an air chamber and a mixing chamber, a mixing tube extending through the air chamber into the mixing chamber and provided with an air port opening into the former, fuel feeding means discharging into the mixing tube, an air valve arranged to constitute a diaphragm between the two chambers and provided with a sleeve member slidably mounted on the mixing tube, a spring held lever engaging the air valve and normally holding the same closed, and an adjustable regulator for said lever.

888,504. Wheel. Arthur L. Jimenez, New York, N. Y., assignor of 45-100 to William Freeman and 5-100 to Joseph Lopez Jimenez, New York, N. Y. Filed April 6, 1907. Serial No. 366,811.

1. The combination with spokes each having an annular shoulder between its ends and a rigid felly secured to the outer ends of said spokes, of a casing embracing the felly and the outer ends of the spokes, a tire carried by said casing and a cushion within the casing between the felly and tire.

888,523. Friction Clutch. Swinfen Bramley-Moore, London, Eigland. Filed Feb. 23, 1907. Serial No. 358,900.

1. The combination in a friction clutch of the single cone type, of a part fixed to the driving shaft, a movable part carried by a sleeve mounted to slide on the driven shaft, an intermediate piece located between the two parts of the clutch, a spring operating between the said intermediate piece and the movable part of the clutch, a second spring operating between the said intermediate piece and the part of the clutch carried by the driving axle, a stop carried by the movable part of the clutch, a sleeve carrying the intermediate piece, and a grooved collar carried by the said sliding sleeve, as set forth.

888,535. Motor Road Vehicle. Frederick H. Royce, Manchester, England. Filed Aug. 12, 1907. Serial No. 388,159.

1. Means for suspending the motor and gear box in the frame of a motor road vehicle comprising four arms projecting from each part the rear two of which are rigidly fixed to the frame, bell crank levers pivoted to the other two arms, the one end of each bell crank lever being connected to the frame, and a coupling rod connecting the other ends of said bell crank levers, as set forth.

888,589. Drive and Steering Gear for Automobile Vehicles. Edward P. Cooper, Paw Paw, Mich., assignor of one-half to Olin James Cooper, Hillsdale, Mich. Filed Feb. 25, 1907. Serial No. 359,083.

1. The combination of the front and rear frames; a swivel connection for said frames; hollow axles; hollow spindles for said axles; vertically arranged pivots for the connecting said spindles to said axles; tubular axle shafts arranged in said axles; spindle shafts arranged in said spindles; gears on said axles and spindle shafts; connecting gears for said axle and spindle shaft gears mounted on said spindle pivots; wheels mounted on said axle spindles and connected to said spindle shafts; steering shafts arranged in said axle shafts; gears on the outer ends of said steering shafts; gears secured to said spindle pivots and arranged to mesh with said gears on said steering

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shafts; a pair of adjustably mounted plates curved in cross section having a pair of diagonally arranged grooves in their inner faces, said grooves diverging in each direction from a central point, each groove being substantially straight on one side of its central point and curved on the other; pins carried by said steering shafts arranged to engage the grooves in said plates; a steering rod; connecting cables for said steering rod to said plates whereby they are adjusted; guide pulleys for said cables, the guide pulleys for the front plate being arranged on the said front frame and those for the rear plate being arranged on the said rear frame; a driving shaft; gear connections therefor to a pair of the said axle shafts; transmission shafts arranged in pairs; gear connections for one of each pair or said transmission shafts to said driving shaft and for the other pair of said transmission shafts to the other pair of axle shafts; driving connections for said pairs of transmission shafts, consisting of wheels having rod-like spokes to said shafts, rim blocks slidably mounted on said spokes, discs having tangentially arranged grooves in their inner faces adapted to engage said blocks whereby, when said discs are adjusted, said blocks are shifted on said spokes, adjusting rods for said discs having spirally arranged grooves therein, and pins on said discs arranged to engage said grooves whereby, when said rods are shifted longitudinally, said discs are adjusted; connecting belts for said transmission wheels; connecting bars for said adjusting rods; and a connecting rod for said bars connected to said steering rod, all coacting for the purpose specified.

888,594. Transmission Mechanism. Orson W. Davis, Rochester, N. Y., assignor to Gearless Transmission Co., Rochester, N. Y., a Corporation of New York. Filed Aug. 10, 1907. Serial No. 387,974.

1. In a transmission mechanism, the combination of the motor and driven shafts journaled to rotate independently, a main driving gear fixed to the end of the motor shaft having a hub with extended ends, a pinion carrying frame spanning the ends of said shafts and having its ends loosely journaled in said frame and meshing with the teeth of said driving gear, means for transmitting motion from said pinions to the driven shaft to reverse the motion thereof, means for locking one end of said pinion frame to the driven shaft, and means for locking the other end of said frame to the motor shaft.

888,597. Sparking Circuit Controller for Explosion Engines. Willard E. Dow, Braintree, Mass. Filed Feb. 8, 1904. Serial No. 192,481.

1. A rotary interrupter, comprising a rotary device provided with a tripping projection, and a series of straight, leaf contact springs extending tangentially of the path of said tripping projection, an adjustable contact for each spring extending toward the middle of said spring on the side thereof opposite said rotary device, each spring being held rigidly at its outer end in free suspension in the plane of said tangency and being thin, light, non-weighted and uniform in thickness from its support to its extreme free end, the latter terminating substantially at said point of tangency with the path of said tripping projection, and being engaged at its free tip end by the tripping projection as the latter is revolved by said tripping device.

888,628. Tire Tightening Apparatus. George R. Macomber, Chicago, Ill. Filed Feb. 8, 1908. Serial No. 414,963.

A device for expanding fellies comprising a hollow shell which is angular in cross section and provided with longitudinal, angular flanges, the ends of which are inwardly turned forming guideways, the outer faces of said inwardly turned portions of the flanges having ratchet teeth, the inner edges of which are flush with the inner end of said flanges, a hollow standard angular in cross section and telescoping within the guideways of said shell, a shaft journaled upon said standard, pins mounted eccentrically thereon, dogs pivoted to said pins and adapted to engage said ratchet teeth, as set forth.

888,705. Speed Indicator. Edwin T. Greenfield, Kiamesha, N. Y. Filed June 22, 1907. Serial No. 380,210.

The combination of a controlling device comprising a two-part casing having bearings formed therein, a shaft journaled in said bearings, a gear on said shaft outside the casing for driving the same, a body pivotally mounted on said shaft, a collar loose on the shaft, a spring for positioning the collar, a link connecting the collar and body, and a lever pivoted on said casing and engaging the collar, said body, collar, spring, link and lever being within the casing, an indicating instrument having an index movable relatively to a scale, a flexible tubing having one end communicating with an opening in said casing and the other end connected to said indicating instrunment, and two wires extending through said tubing and connected at one end to said lever and at the other to said index, said wires

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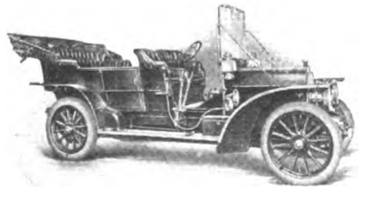
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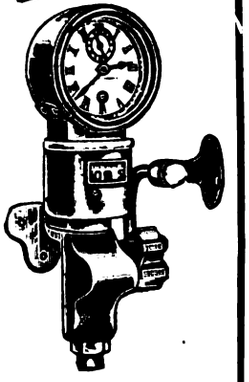
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being arranged to turn said index in opposite directions, substantially as set forth.

888,750. Speed Changing and Reversing Gearing. William A. Salter, Cedar Point, Kan. Filed Feb. 12, 1907. Serial No. 356,983.

1. In a change speed transmission mechanism, the combination of a driving shaft, a tubular driven shaft sleeved thereon, a small pinion mounted on and rotating with the driving shaft, a larger gear connected with the driven shaft, a stepped gear connecting said pinion on the driving shaft and gear on the driven shaft and mounted to rotate about the axis of the driving shaft and also about an independent axis, a casing rotatable about the axes of the shafts and provided with an internal gear meshing with larger of the pinions of the stepped gear, means for preventing said casing from rotating, other means for preventing said stepped gear from rotating about the axis of the driving shaft, and means mounted upon and rotating with the driving shaft and adapted to engage with the casing in order to lock the same to said shaft.

888,782. Spark Plug. Eligha Bruden, San Francisco, Cal. Filed Feb. 10, 1908. Serial No. 415,018.

1. A spark plug having a wire holder of non-conducting material and having a rear shoulder, two wires there-through, having exposed points adjacent to each other, between which the spark can pass, one of said wires extending to the outer end of the holder, and the other wire extending to said shoulder and being there exposed, and a metallic sleeve for the holder in contact with said exposed end and provided with means for securing it in the wall of an explosion chamber.

888,711. Sparking Plug. Louis Kantroditz, New York, N. Y. Filed March 6, 1907. Serial No. 360,931.

1. In a sparking plug, the combination of an electrode, and insulation around the same having a fixed portion and a vibrating portion.

888,876. Variable Transmission Mechanism. Orson W. Davis, Rochester, N. Y., assignor to Gearless Transmission Co., Rochester, N. Y., a Corporation of New York. Filed July 22, 1907. Serial No. 385,014.

1. In a frictional transmission mechanism, the combination of the motor shaft, a friction wheel movable axially thereon and rotatable therewith, a driven shaft in alignment with the motor shaft, a friction disc movable thereon and rotatable therewith, opposed friction wheels having plane faces adapted to engage the periphery of the friction disc on the driven shaft, means for moving the friction wheel on the motor shaft into engagement with the peripheries of the opposed friction wheels, means for moving said opposed friction wheels into engagement with the periphery of the disc on the driven shaft, and means for sliding said disc across the faces of said opposed wheels.

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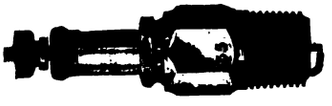
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The ordinary $1.50 plug is no better than the "Gotham" STA-RITE, at $1. Stays right longer than other plugs costing more. Will not crack, leak, or short-circuit. Of dealer, or direct. THE R. E. HARDY CO., 25 W. 42d St., New York City.

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¶Cars are like men in that it takes a study of them to realize their possibilities.

¶We have made a study of the spring question and can help you realize to the full the easy-riding possibilities of your car. The use of Supplementary Spiral Springs are a duty you owe to yourself. They provide spring insurance and spring comfort, effectually guarding against shocks to your pocketbook and passengers.

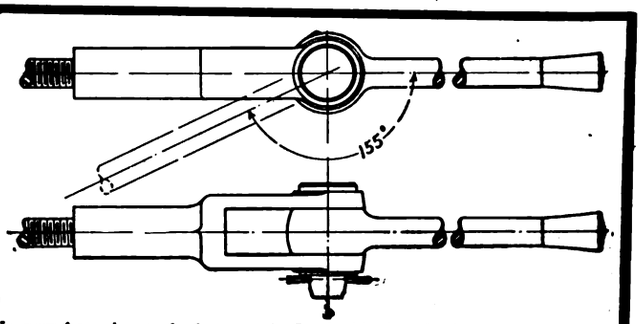
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We now have in stock the new A. L. A. M. Standard Rod and Yoke Ends, both the adjustable and plain patterns, either blanks or milled. Send for new circular with full particulars.

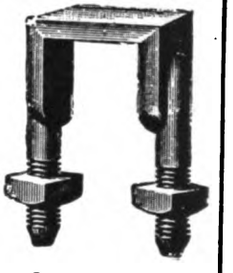
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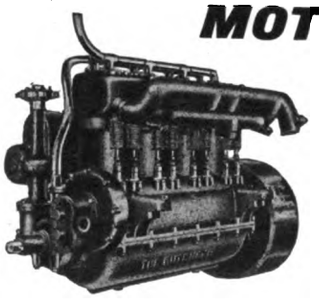
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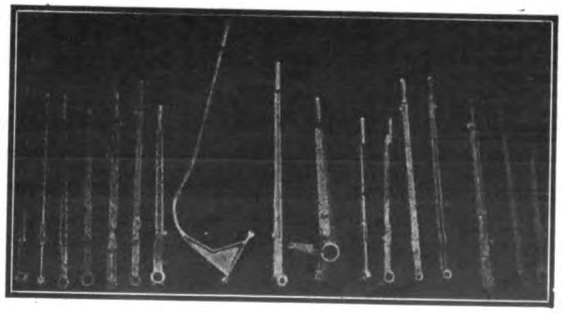
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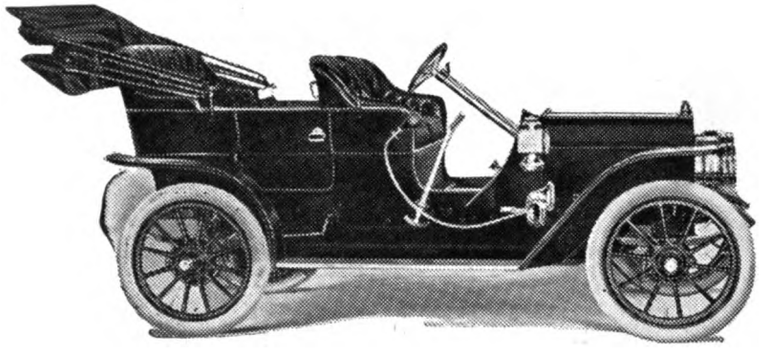
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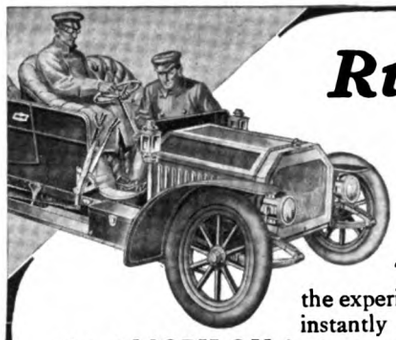
¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

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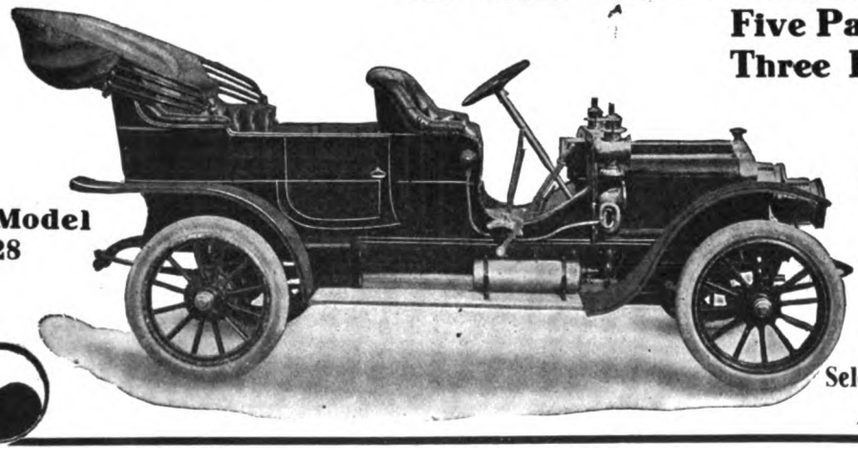
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Model 28

Five Passenger Touring Car $2000
Three Passenger Runabout $2000

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4 Cylinders, 30 H. P., 109" wheel base, metal body, pressed steel frame, beveled gear drive, three speeds selective.

A great hill climber, smooth running, ample power, light weight, well-made, fine finish and already known as the "Silent Selden" because it runs so noiselessly.

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4-40 Roadster. Price, $3,000.

that made the run from Philadelphia to Savannah, Ga., March 5th to 18th, through mud up to the radiator, beating all previous records.

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Means absolute reliability of the ignition system.
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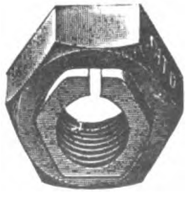
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ARE GOOD TIRES

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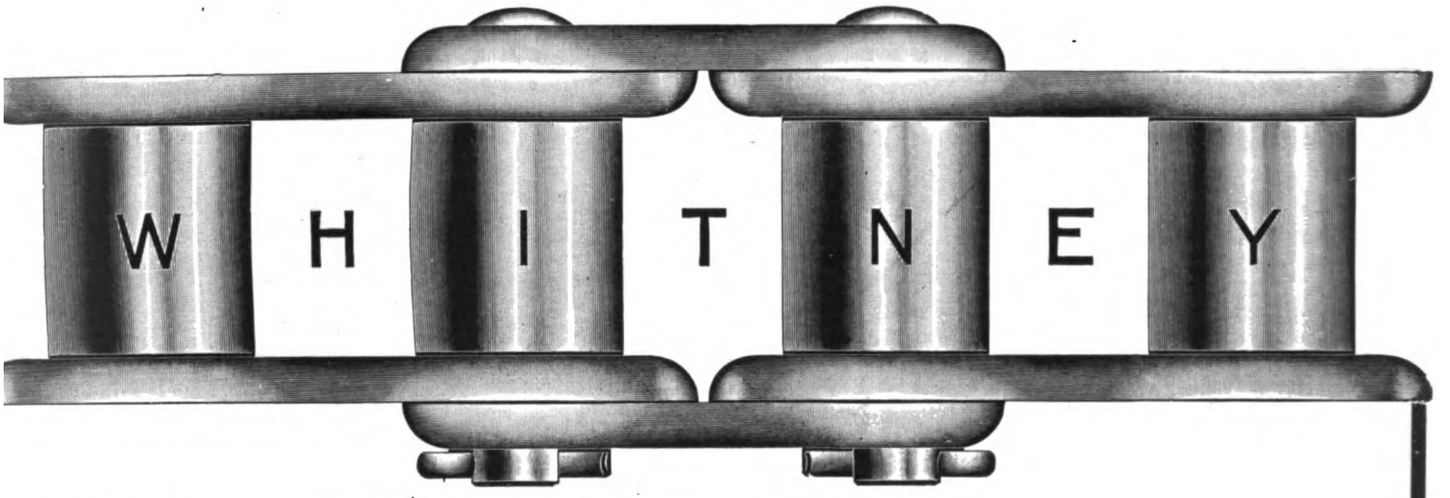
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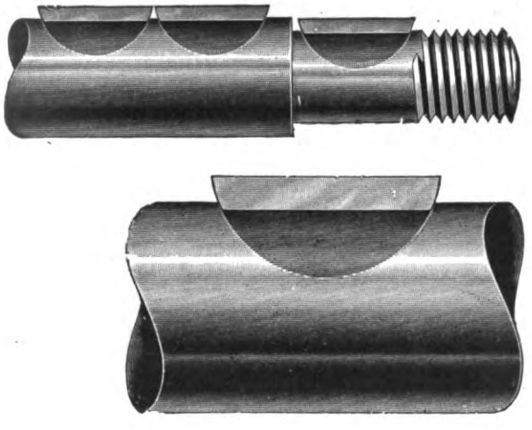
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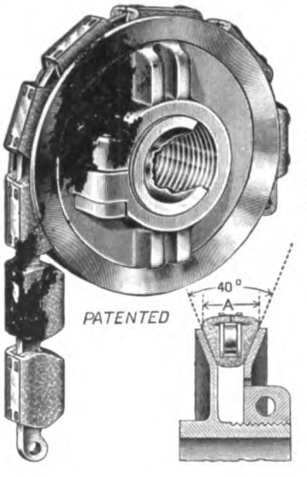


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Better results and a great saving in cost.

We carry 95 regular sizes of Keys and Cutters in stock for immediate delivery.

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Hartford, Connecticut

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$2000

THE SELDEN CAR

Finished the Glidden Tour with a CLEAN SCORE and Was Deprived of a "Perfect Score" by a Technicality

We entered a stock car, which had already been run over 5,000 miles, without any shock absorbers, straps, bumpers or other safety appliances, complying strictly with the rules as to equipment. (All other cars were equipped with these devices.)

Our car was equipped with a speed indicator, the sprocket connection of which worked loose crossing the mountains in Western Pennsylvania and fouled our steering knuckle, making it impossible to avoid a large boulder in the middle of the road, and we broke a front spring in consequence.

The broken spring did not penalize us, nor the repairing of the spring, but because we used four machine-made nuts (instead of four hand-made nuts) we were disqualified from further contest for the Glidden Trophy.

Our car continued the tour as a non-contestant, checking in and out every day, observing all the rules and finished with a clean score.

It was in such good condition upon arriving at Saratoga that we made a non-stop run from Saratoga to Rochester, a distance of 272 miles on the following day without any adjustment whatever.

Our "extra parts" bag was not opened on the entire trip. No other car did any better.

COMPARE OUR CAR WITH OTHERS IN THE TOUR AND SEE WHAT WE HAVE ACCOMPLISHED

Demonstrating the highest quality of workmanship and material, durability, stability and the all-important fact that a strictly first-class gentlemen's car can be made and sold for $2000.

Why Pay Double the Price for a Name-Plate?

Duplicates of this car are now ready for delivery.

All our cars are sold with a guarantee and with all that we have out during the past season the cost of repairs amounts to little or nothing.

The "Silent Selden" (as the car has become known by its quiet running) is made on honor, a credit to the name of the man who invented gasolene automobiles, and every owner is proud of his purchase.

Superb riding, roomy tonneau, luxurious upholstery, smooth running, great hill climber, flexible and easily handled, economical in up-keep, stylish and attractive—the coming car of the multitude.

Now closing 1909 agencies—over half our output already spoken for. Good live agents wanted everywhere. Send for catalog and agency proposition.

SELDEN MOTOR VEHICLE COMPANY, Rochester, N. Y.

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13,431 Miles of Triumph

ON

Diamond TIRES

Both Casings and Tubes

NEW YORK-PARIS RACE

¶From start to finish Diamond Quick Detachable Tires equipped the winning Thomas car. Without once failing to do their part, without once causing delay, Diamond tires performed their part with unparalleled excellence.

> It was a great victory. Diamond tires gave most excellent service and satisfaction.
> E. R. THOMAS MOTOR CO.

¶And note, also, that when Chicago was reached at the outset of the race, the tire equipment of the only other car to finish was voluntarily offered us, although on terms which we could not accept.

THE DIAMOND RUBBER COMPANY, Akron, Ohio

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THOMAS The World's Champion

The Thomas Flyer Wins the Race Around the World

The Thomas Flyer entered Paris Thursday, July 30th, winning the New York to Paris race, the greatest endurance contest in history, by TWENTY-SIX DAYS, and being the ONLY car of all those entered TO GO THE OFFICIAL ROUTE. The Thomas traveled 2385 miles on land under its own power MORE than its nearest competitor, and this over the worst, the most racking portions of the route, and under the worst conditions. In addition to this the Thomas traveled 3246 miles farther by water—a total of 5031 miles farther than its nearest competitor, which shipped by rail from Pocatello, Idaho, to Seattle, avoiding the most severe portion of the road across the American continent. That the Thomas should arrive in Paris only four days behind the German car, which traveled 5031 miles less, is sufficiently remarkable to cause world-wide comment. That the Thomas should perform this feat in spite of days lost by misdirection—in spite of days lost by the cornering of all the gasoline at Vladivostok by a foreign competitor—these facts and the fact that the Thomas which performed this feat is a regular stock car, are the reasons why all Europe is admitting today that America produces the best cars in the world, and that no car ever produced in any land can compare with the Thomas, or begin to duplicate its performance.

The Thomas Flyer which won the New York to Paris race was selected only six days before the race. It was already crated and tagged to be shipped to the Thomas agent in Boston. It was a stock model pure and simple and no change of any kind was made in any mechanical part, except the replacement of the drop front axle for one of the straight, such as are ordinarily used on Thomas cars shipped to Western districts. After traveling 13,431 miles over the worst roads ever attempted by any car, the Thomas is reported to be in excellent condition, and save for the physical exhaustion of its crew due to the terrific pace they made driving day and night through almost trackless wilderness COULD START FROM PARIS TODAY AND COME BACK OVER THE SAME ROUTE.

It is doubtful if American motorists will ever learn the whole of the frightful conditions the Thomas car met and successfully overcame. That of all the specially built foreign cars to start, one of them should actually finish directly contradicts the expressed opinions of many automobile experts, who frankly declared the route impassable to any self-propelled vehicle ever made. But that the Thomas, a simple stock car, should not only finish, but should be the only car to cover the official route, should win by TWENTY-SIX DAYS, defeating all these specially built foreign champions, proves that America is years ahead in the building of SERVICE cars, and that the Thomas leads the world in automobile construction by the same wide margin that the Thomas Flyer led all comers of all nations in the great race round the world.

The route of the racers led over the worst roads of the American continent at the worst time of year, through the heaviest snows of the winter, through the enormous snowdrifts, the heavy wind and deep ruts of Russia and Siberia in the rainy season, through almost impassable swamps, thousands of miles remote from civilization and repair shops, through unknown countries, over unknown and unbroken roads. A large proportion of this traveling was done at night, when road obstacles, avoidable in the day time, assumed the most dangerous proportions. Contrast this performance with the EASY DAYLIGHT TRAVEL OF A GLIDDEN TOUR ON WELL TRAVELED ROADS, ALWAYS AMIDST FRIENDS AND IN SIGHT OF VILLAGES OR FARMHOUSES, and the difference between the Thomas feat and the most trying public performances of other American cars will be readily apparent.

Every 1907-8 stock Thomas Flyer is a mechanical duplicate of this world's champion, and every 1908-9 Thomas Flyer is equal to this car in EVERY way, and superior to it in MANY ways, and ready at any moment for a trip 'round the world.

E. R. THOMAS MOTOR CO., BUFFALO, U. S. A.

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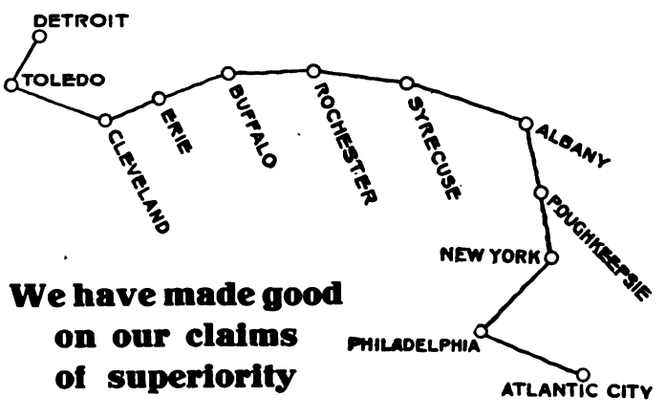
THE

"DETROIT ELECTRIC"

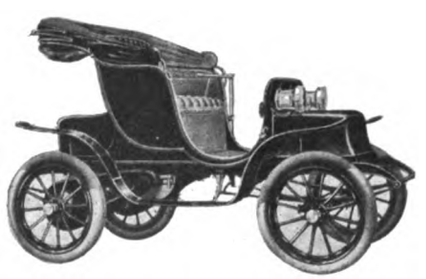
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Total miles 1060, average per day 84, without a broken part, a change of batteries, or assistance of any nature.

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GENERAL OFFICES: N. E. Cor. 57th St. and Broadway, New York.
Factories: Trenton, N. J.
BRANCHES:
New York, 1776 Broadway — Denver, 1529 Cleveland Place
Boston, 819-a Boylston St. — Seattle, 1102 Broadway
Chicago, 1418 Michigan Ave. — San Francisco, 460 Golden Gate Ave.
Detroit, 743 Woodward Ave. — Los Angeles, 1040 S. Main St.
Agents in all large cities.

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Large Sales

make it possible for us to import **THE CELEBRATED BRAMPTON CHAINS** from **ENGLAND** (paying freight and duty), and sell them at the same price at which the several other automobile chains are sold to manufacturers, jobbers, dealers and users.

THE BRAMPTON MOTOR CHAIN



All side plates on both sides on the Brampton Chain are stamped **"BRAMPTON."**

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement.

THE BRAMPTON CHAIN is made of helf-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like **THE CELEBRATED BRAMPTON CHAIN** because some of the other chain makers began to copy the design and shape of the **BRAMPTON CHAIN** links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the **BRAMPTON CHAIN** than ever before. These chains somewhat resemble the **BRAMPTON** in appearance, but the manufacturers of such chains have been unable to copy the material—self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the **BRAMPTON MOTOR CHAIN** in the past ten years.—**"ENUF SED."**

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the **BRAMPTON FILLS THE BILL,** and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size—as follows:

CHAINS TO FIT AMERICAN CARS

1 x ⅜ x 9-16—1 x ½ x ⅝—1 x ½ x 9-16 roller	$1.00 per foot.
1 x ⅝ x ⅝ roller	1.17 "
1¼ x ½ x ⅝—1¼ x ⅝ x ⅝—1¼ x ⅝ x ¾ roller	1.25 "

We also carry in stock the **BRAMPTON CHAINS** to fit Foreign Cars—Mercedes, Panhard, Martini, Fiat, etc.

Your 1908 Car

You can have the new car that you order fitted with the **CELEBRATED BRAMPTON CHAIN** if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.

Agents wanted in unoccupied territory. Catalog on request.

We are Sole American Agents for **BRAMPTON CHAINS,** and they cannot be bought from anyone else except through our Agents.



Pan-American Automobile Body Polish

Pan-American Polish was awarded the Bronze Medal at the Louisiana Purchase Exposition at St. Louis, 1904. This polish has been carefully prepared for the Automobile trade. It is also applicable to the carriage trade, or can be used on any varnished furniture or woodwork of any kind. It will remove stains, cover scratches; leaves the automobile with its original new lustre, without being sticky or greasy. Furnished in eight-ounce bottles. Guaranteed not to harm the finest varnish. For sale by all Automobile Dealers. Price 60 cents per bottle.

The Miller Automobile Jack

The Miller Automobile Jack is a quick acting, automatic lowering jack, designed especially for automobile use, and is adapted to the factory or garage as well as to be carried as a part of the equipment on motor cars. It is high-grade and one of the finest finished jacks on the market. We guarantee this jack for twelve months. The list price of the Miller Jack, $3.50 each.



CHAS. E. MILLER

Manufacturer, Jobber, Exporter and Importer

Home Office: 97-99-101 Reade Street, New York

Branches: 54th St. and 8th Ave., New York. 318-320 N. Broad St., Philadelphia, Pa. 1829 Euclid Ave., Cleveland, O. 824 Main St., Buffalo. 202-204 Columbus Ave., Boston, Mass. 227½-229 Jefferson Ave., Detroit. 1392 Bedford Ave., Brooklyn, N. Y.

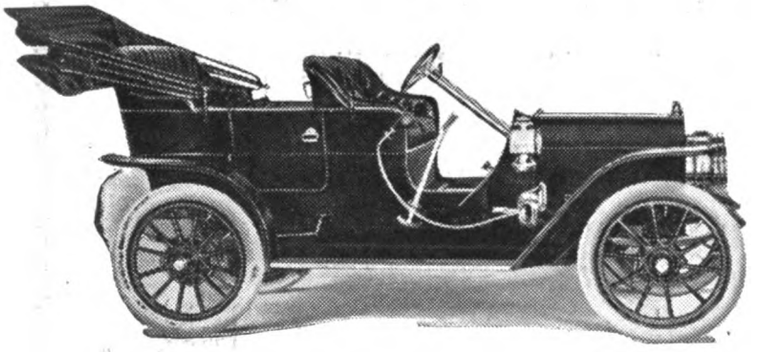
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MORGAN & WRIGHT, DETROIT

are making a 33 x 4 tire which can be applied on a 32 x 3½ rim, and a 31 x 4 tire for use on a 30 x 3½ rim.

GET PARTICULARS AND PRICES

OAKLAND



Model B Touring Car, price $1,350.00. Full equipment, including two gas lamps, two side oil lamps, one tail lamp, generators, horn, tools, jack, pump and batteries. Top, $75.00 extra. Runabout, $1,300.

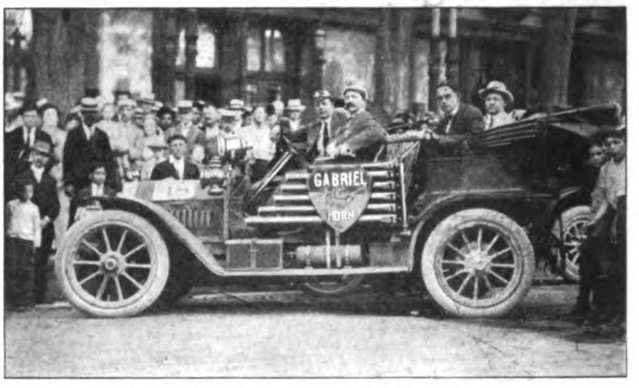
¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

¶ The live agent will find in the Oakland a car that appeals to a large and intelligent class of purchasers and that will justify the fullest confidence.

¶ Correspondence invited.

OAKLAND MOTOR CAR CO., Pontiac, Mich.

J. B. ECCLESTON, Sales Manager, 53 Franklin St., Buffalo, N. Y.



A Successful Test

The cut illustrates the Gabriel Horn car which accompanied the Glidden Tourists; a trip made to test the Gabriel Horn and Gabriel Shock Absorbers. Over all roads, rough and even, both gave extreme satisfaction and demonstrated that they are the best on the market to-day.

THE GABRIEL HORN can be attached to exhaust of any car, steam or gasoline.

THE GABRIEL SHOCK ABSORBERS for any car or any spring; make easy riding and protect both the springs and occupants of car.

THE GABRIEL CUT-OUT VALVE relieves back pressure of engine and assists in speeding, hill climbing and on heavy roads. Write for prices to-day.

GABRIEL HORN MFG. CO.

1417 E. 40th St., CLEVELAND, O.

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The Car You Can Afford to Buy and Keep

is the Mitchell.

—Because it is moderate in **price** ($1,000 to $2,800).

—Just as stylish, handsome and well finished as **any** car.

—And is perfect in each **detail** of construction.

—Doing just as well on the road and **standing up** to **wear** and **tear** just as well as the **extravagantly high-priced** cars.

Know this for **yourself**, Mr. Business Man.

Get **demonstrations** of the high-priced cars.

Then form **your** opinion in a demonstration of the **Mitchell.**

The Mitchell agent will be glad to take you out for 50 or 100 miles any day.

Call him up—you are placed under no obligation.

$2000

Just say "Show Me"

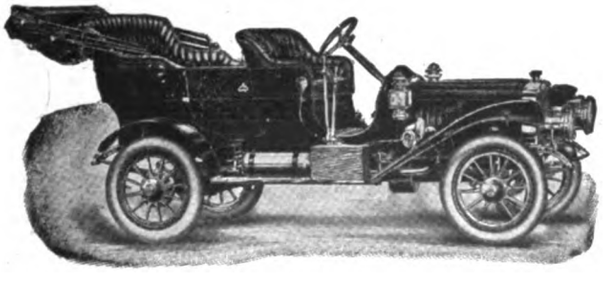
He'll answer with the **car**—show you a "**silent** argument" that will convince you.

Write for letters proving that the Mitchell is the most economical car to **operate**, and for catalog No. 18, picturing and describing the Mitchell Touring Car $2,000, Limousine $2,800, Roadster $1,250, and Runabout $1,000.

Touring Car shown here—5 passenger, 35 h. p., 4 cylinder, speed 50 miles, finished in Mitchell blue—a very neat and extremely desirable car from radiator to tail light.

Mitchell Motor Car Co., 285 Mitchell St., Racine, Wis.

Standard Manufacturers,
A. M. C. M. A.



Mongrel or Thoroughbred?

NOW IS THE TIME for you, Mr. Thoughtful Dealer, to decide what you will sell in 1909.

WILL IT BE A MONGREL? a car assembled from parts carried together from all over the country and hammered into shape as well as may be?

OR WILL YOU SELL THE THOROUGHBRED—a homogeneous mechanical masterpiece, every single part of which is the result of the same genius that devised the whole?

"ASTOUNDING," "MARVELOUS," "WONDERFUL," are the terms with which some assembled cars are now tagged, though they are astounding, marvelous and wonderful only to the assemblers, who like Rip Van Winkle, have been dozing in the growing woods of automobiledom and who now, bewildered by the progress that has been going on, seize upon time-tried and long-established practices and herald their adoption by the assemblers as brand-new discoveries.

LET'S REASON IT OUT: On the one hand you have the assembled car, with an engine bought from one manufacturer, a frame from another, and a transmission from a third, and so on down to the last rivet. The maker of the engine, the mill in which the frames are pressed, the transmission man, all derive their separate profits, leaving no other way to the assemblers to obtain their rewards than by skimping the quality of their "product."

AND THEY DO IT—THEY MUST! When you examine some of these astounding cars you will be truly astounded on finding that the four-cylinder engine is cast in one piece and has only two main bearings, whereas the Maxwell has four cylinders and five main bearings. You know well enough that making a motor with only two bearings is equal to leaving the engine to its own devices as far as alignment is concerned.

IT WILL BE A TOUGH JOB FOR THE DEALER to convince the purchaser who is wise that some four-cylinder engines of small dimensions will develop as high as 30 horsepower—because they can't.

MAXWELLS ARE A HOME-GROWN AMERICAN PRODUCT. The use of Maxwell features in Maxwell cars was neither a heaven-given inspiration nor the aping of foreign design, but the outcome of sound engineering sense.

WHEN 10,116 MAXWELL OWNERS testify to the excellence of their cars, all of which have been sold by Maxwell dealers, then the Maxwell proposition is one that you can't afford to pass by.

BEFORE HITCHING YOUR WAGON TO A STAR it will be wise for you to find out all about a dealership for Maxwells, the success of which is past and present, instead of lying in the dark and distant future that has swallowed so many wonderful cars that have been marvelous chiefly in their complete and rapid disappearance from the field of legitimate competition.

Benj. Briscoe
President.

MAXWELL-BRISCOE MOTOR CO.

Standard Manufacturers A. M. C. M. A.

P. O. Box 106, Tarrytown, N. Y.

Factories: TARRYTOWN, N. Y. NEWCASTLE, IND. PAWTUCKET, R. I.

Address communications to Tarrytown, N. Y.

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WEED CHAINS

Made Perfect Scores Possible in the Glidden Tour

Had it not been for Weed Chains it is doubtful if any of the cars in the Glidden Tour would have completed the 1669.7 miles run with perfect scores.

Mrs. Cuneo's telegram shown above, makes clear that it would not have been possible to travel on the wet, slippery roads without the use of Weeds.

Weed Chains when attached to your tires positively prevent skidding. They grip and hold the wheels to the road, and enable the heaviest automobile to climb hills, or negotiate in mud or sand without any trouble. They prevent lost traction, and reduce gasolene consumption. Fit any standard tires; are readily attached and detached.

Write for "THE WEED," a Bulletin

WEED CHAIN TIRE GRIP COMPANY

35 MOORE STREET, NEW YORK

The Uses of the

WITHERBEE BATTERY



are not confined to ignition alone. It provides current for side lights and tail lights, inspection lamp, limousine lights, gauge and oil-feed lights.

FOR IGNITION

It is universally acknowledged to be the most thoroughly reliable system obtainable. Endorsed by leading manufacturers and dealers everywhere. The Witherbee is the best battery made—best for ignition and general utility.

If desired Agents and Branches of this Company will fulfill any requirements of manufacturers, dealers and owners.

Wico Inspection Lamp, Wico Charging Device, Wico Ring and Roller Timer, Volta Magneto, Witherbee Batteries Wico Ignition Wire.

Witherbee Igniter Co., 1876 Broadway NEW YORK

Makers of the Famous Witherbee Battery.

DETROIT 1429 Michigan Ave. | CHICAGO 220 Jefferson Ave. | BUFFALO 720 Main St.

BALTIMORE OFFICE: 604 Continental Trust Bldg.

BEAR IN MIND

that in eight years there have been five models of Stevens-Duryea Cars. Worked out to perfection before being placed on the market — their mechanical features distinguished for being ahead of the times and because of common sense construction. Contrast the evolution of five unqualifiedly successful Stevens-Duryea Models with the every few months "improvement," radical changes, etc., in the output of some motor factories.

WHEN YOU BUY A STEVENS-DURYEA CAR YOU SECURE A MINIMUM OF UPKEEP EXPENSE AND A MAXIMUM OF PEACE OF MIND.

WRITE FOR DESCRIPTIVE MATTER

STEVENS-DURYEA CO.

690 Main Street, Chicopee Falls, Mass., U.S.A.

Member A. L. A. M.

SRB SRB SRB

The efficiency, economy and superiority of **STANDARD BEARINGS** is shown by their work in the **THOMAS FLYER, AMERICA'S CHAMPION** in the NEW YORK-PARIS RACE

THE VITAL EQUIPMENT

of this car as to bearings, in the transmission, jack shaft and rear wheels, consists of

SIXTEEN STANDARD BEARINGS

Wherever used, they prove their superiority —they run better, wear better and are better in every respect.

SEND FOR CATALOG

Standard Roller Bearing Co.

PHILADELPHIA, PA.

SRB SRB SRB

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"Firestone" Tires

"The Tires of Sterling Quality"

are different from other tires—distinctly different—decidedly better—their "betterness" lies in their durability and low mileage cost.

Equip one of your wheels with a Firestone tire—compare its quality and durability with the other tires.

We are confident the comparison will result in your equipping your car throughout with Firestone tires.

Branches and Agencies Almost Everywhere.

Firestone Tire & Rubber Co., Akron, Ohio



on a midwinter trip from New York to New Orleans, Mr. Ralph Owen driving an **Oldsmobile,** found in plenty, incidents and conditions of the sort that showed the kind of stuff men and things are made of.

When you stop to consider what an automobile is built and intended for, the endurance of this car is marvelous. He says:

"Between Blue Stores and Hudson the road was particularly rough and rutty, and as we were nearing Hudson one of our rear tires was wrenched off in a frozen rut which was nearly eight inches deep. At Buffalo, a thorough examination of the car was made to see if the terrible strain under which it had been the last three days had in any way decreased its efficiency, but aside from a broken spark plug, which had given us some annoyance the last ten miles into Buffalo, nothing was discovered."

This Car was equipped with TIMKEN ROLLER BEARINGS AND AXLES

Has it ever occurred to you WHY the manufacturers invariably equip the cars they pick for such trips, with **Timken Product?** There is a reason. May we give it to you?

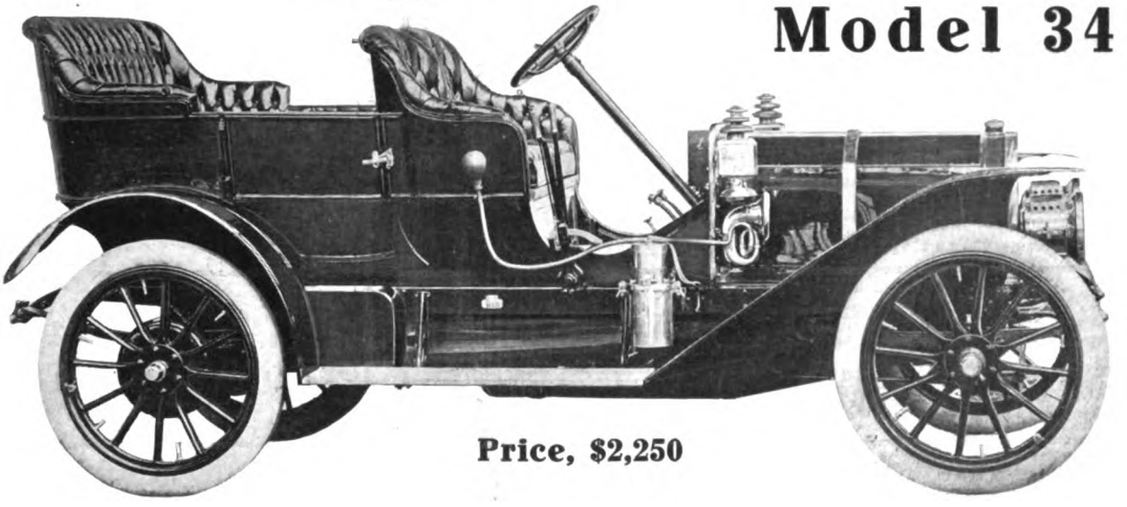
THE TIMKEN ROLLER BEARING AXLE COMPANY, Canton, Ohio

Branches: 10 E. 31st Street, New York. 429 Wabash Avenue, Chicago.

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Rambler

Model 34



Price, $2,250

TRY IT ON THE HILLS

Test this car at half speed on a hill or sand road where power and every ounce of it is needed. Notice how steadily and powerfully it pulls when running slowly under load.

The capacity of the offset crank shaft for doing this extra work is most noticeable at low engine speeds. All that power which in other engines is lost through friction on the bearings and cylinder walls, is added to the driving force by the Rambler offset crank shaft. It reduces friction; eliminates hammer and bearings; gives more power.

The straight line drive delivers the power direct and with least frictional loss to the rear axle. Let us demonstrate these features and the silence and the comfort of this car.

Tell our nearest representative to call at your home and take you to your place of business some morning in a Rambler. Or write your name and address and "Model 34" on a postal and mail to us today.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco.

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, August 13, 1908. No. 20

TIRE CONCERT OUT OF TUNE

Deadlock at Cleveland Meeting of the Makers—"Railroading" Methods Arouse Resentment.

Cleveland, O., Aug. 11.—Short, sharp and exciting was the session of the tire makers who gathered in Cleveland to-day to see what could be done about the plan of reducing tire cost to the consumer and of eliminating the price cutting evil. While all of the makers represented made it plain that they were in perfect sympathy with the proposed movement, the meeting itself ended in a deadlock brought about chiefly by actions on the part of the chairman which were regarded as an attempt to "railroad through" a resolution sweeping in its effects and which included clauses and conditions with which the members had not been given time to familiarize themselves. The form of the resolution, even more than its substance, was objected to, as was also the manner of its presentation with a flourish of the "big stick" and dire threats of what would happen to those who opposed it.

The effort to jam the resolution through, supplemented with a statement that both the Licensed and "unlicensed" automobile associations had pledged support, resulted in failure and defeat, despite the chairman's decree that he would make outcasts of the offenders who opposed him, by reporting their names to the automobile associations. The opposing members were incensed that the chairman should undertake to represent them as desiring to obstruct the wishes of the automobile manufacturers, when, as a matter of fact, they are in sympathy with some plan to reduce the evils of price cutting and are ready and willing to take united action, could a course be outlined that would be just to all.

The vote was a tie and the close of the meeting, which soon followed, found the manufacturers decided in going their separate ways, though indicating that they are in accord with the purposes for which the meeting was ostensibly called and will carry them out individually, without concerted action. On the question of reduced list prices all the makers were united, and action along this line is a foregone conclusion. Lessened discounts will naturally follow, though a perfectly uniform discount would seem out of the question. Representation by but one agent in a town and by none where a branch house is located created a difference of opinion and was the subject of sharp debate.

While the meetings in New York and Cleveland did not accomplish anything definite, benefits will follow in the reduction of list prices and the general improvement of trade conditions.

Takes Half of the E-M-F Output.

By an arrangement between the Everitt-Metzger-Flanders Co., of Detroit, and the Studebaker Automobile Co., of South Bend, Ind., the latter concern will undertake the marketing of half the proposed production of 12,000 E-M-F cars in the season of 1909. Studebaker outlets not only in the United States, but also abroad will be used, and as sold by the Studebaker agencies the price of the car will be $1,300 complete with touring equipment. The new arrangement does not affect the Studebaker relations with the Garford.

Logan Goes into Bankruptcy.

The Logan Construction Co., of Chillicothe, O., filed a petition in bankruptcy on Monday, August 11, showing liabilities of $120,000 and assets estimated at $69,000. The concern was organized with local capital a few years ago to devote itself chiefly to the commercial vehicle field. It was recently reorganized, but apparently without successful result.

Blomstrom to be Enlarged.

The Blomstrom Manufacturing Co., of Detroit, Mich., has increased its capital stock to $500,000. The increase is underwritten by Pittsburg capitalists. Extensive increases in the plant are contemplated.

LICENSED SESSION'S LIVELY

Buick President Scores the Members—Develops a Warm Answer—Standard Rim is Adopted.

Instead of the usually placid program, considerable heat was genrated at the general meeting of the Association of Licensed Automobile Manufacturers in New York, on August 7, by the fervid remarks of W. C. Durant, of the Buick Motor Co., who took occasion to score other members for alleged offenses of policy of which he did not approve.

He was particularly aroused by a letter which a short time ago emanated from the new Everitt-Metzger-Flanders combination in Detroit, and which, while being marked "Confidential," was extensively circulated in the trade. The letter was in the nature of a "wait-for-the-big-show" notice and incidentally made numerous and free remarks about other makers and "assembled" cars and took liberties with Durant's proposed International Motor Co. After paying his respects to the E-M-F letter, Durant turned to the Cadillac Motor Car Co., and accused it of disturbing trade conditions and of putting a heavy burden on agents with unsold cars by announcing and advertising a sensational new model so long a time in advance of its actual appearance or possible delivery. In conclusion he arraigned all the members of the association for alleged lack of co-operation and for not working together for the best interests of the industry.

When he had quite finished, Thomas Henderson, of the Winton Motor Carriage Co., undertook to call attention to the fact that it had been about two years since Durant or any of his representatives had manifested enough interest in the meetings of the association even to attend, thus suggesting the possible suspicion of the very lack of co-operation to which he took exception. The speaker further recalled that one of

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the most conspicuous instances of advance notice work that the trade had ever seen was the heralding at the 1907 New York show, in January, of a light, four-cylinder, low priced Buick model for delivery some time after the following August.

H. H. Franklin, president of the H. H. Franklin Mfg Co., of Syracuse, resigned as treasurer of the association, a post he has held for the past three years. Colonel George Pope, treasurer of the Pope Mfg. Co., was unanimously elected to succeed him.

The report of the show committee was accepted, and it was decided that allotments of space at the Madison Square Garden show will be made at the next general meeting, which will probably be held early in September. It was recomended that the usual method of allotment be adopted, which is according to the amount of business done from July 1, 1907, to July 1, 1908. The decorative contract has been awarded to the S. R. Ball Co., as heretofore, and a new method of arranging the elevated platforms will give five thousand feet more floor space than in previous years. The report of the handbook comittee was also accepted, and work on the 1909 handbook will commence at once.

After discussing the new standard, universal quick detachable rim, the association approved the recommendations of its rim and tire committe, and adopted it as the standard for equipment.

Those present were: M. I. Brock, Autocar; W. C. Durant, Buick; W. C. Leland, Cadillac; R. D. Chapin, Chalmers-Detroit; M. S. Hart, Corbin; E. R. Hewitt, Hewitt; A. N. Mayo, Knox; S. T. Davis, Jr., Locomobile; V. M. Gunderson and W. E. Metzger, Northern; F. L. Smith, Olds; M. J. Budlong, Packard; L. H. Kittridge, Peerless; C. Clifton, Pierce; Geo. Pope, Pope; G. E. Mitchell, Alden Sampson; R. H. Salmons, Selden; F. B. Stearns, Stearns; I. H. Page, Stevens-Duryea. A. W. Church and O. G. Bechtel, Waltham; Thomas Henderson, Winton.

Stepney Agency to Dissolve.

A temporary receiver has been appointed by Justice Goff of the Supreme Court for the Stepney Spare Wheel Agency, of 341 Fifth avenue, New York City. An order to show why the corporation should not be dissolved was set down for September 28, following an application for voluntary dissolution by the directors, who allege it to be insolvent. The corporation has no direct connection with the Spare Motor Wheel of America, Ltd., at Chicago, the makers of the Stepney wheel.

Fatal Explosion at Auto Gas Plant.

An acetylene gas explosion on August 6, at the Auto Gas plant in Albany, N. Y., completely wrecked the building and in addition to blowing the right leg off John B. Harrison, the manager, killed John Malone and William Fort. Malone's body was found in the debris of the factory while Fort, who was across the street mowing his lawn, was crushed by a flying gas tank. Great damage was done to neighboring buildings, while the loss at the plant, which is operated in connection with the Avery Portable Lighting Co., of Milwaukee, was over $20,000.

The Week's Incorporations.

Aurora, Ill.—Sommer Motor Co., under Illinois laws, with $25,000 capital. Corporators—Willis H. Baker, L. A. Sommer, Harold F. White.

Richmond, Va.—Gordon Motor Car Co., under Virginia laws, with $5,000 to $25,000 capital; to conduct automobile transfer business. Corporators—J. O. Hayes, W. F. Gordon, E. D. Hotchkiss.

Camden, N. J.—Chalmers Detroit Motor Co. of Philadelphia, under New Jersey laws, with $25,000 capital; to manufacture automobiles, etc. Corporators—F. R. Hansell, W. F. Eidell, J. A. MacPeak.

Hempstead, L. I.—New York Auto Supply Co., under New York laws, with $12,000 capital. Corporators—Benjamin D. Underhill, New Canaan, Conn.; George H. Sprague, George T. Sprague, Hewlett, N.Y.

Brooklyn, N. Y.—Interborough Garage Co., under New York laws, with $20,000 capital. Corporators—John F. O'Donnell, Pierce W. Grace, 44 Court street; Thornton J. Theall, 215 Montague street, Brooklyn, N. Y.

Warren, O.—Hitchcock Motor Co., under Ohio laws, with $20,000 capital; to manufacture and repair automobiles. Corporators—J. A. Hitchcock, W. H. Creahen, Herbert E. Craig, T. M. Burton, S. E. Wannamaker.

New York City, N. Y.—Elite Motor Service Co., under New York laws, with $100,000 capital. Corporators—William H. Barnard, 54 Howard stret; Willis B. Troy, 262 West Seventieth street. Edmonds Putney, 2 Rector street, New York City, N. Y.

Passaic, N. J.—Foxhall-Wilson Co., The, under New Jersey laws, with $5,000 capital; to manufacture and sell bicycles, automobiles and hardware supplies, etc. Corporators—Thomas Foxhall, Clarence A. Wilson, George H. Dalrymple.

New York City, N. Y.—City Motor Service, under New York laws, with $50,000 capital. Corporators—George A. Melbourne, 500 West 122d street; H. C. Fuller, 2783 Broadway, New York City, N. Y.; M. A. Doyle, 16 Butler street, Brooklyn, N. Y.

Bristol Begins Getting Busy.

The Bristol Engineering Co., of Bristol, Conn., which is to make motor cabs for the American Taxameter Cab Co., has started operations, F. E. Moskovics having brought over a number of draughtsmen and others from Kingston, N. Y., and set them to work in the new factory building on North Main street. The chief work that will be done in Bristol at present will be assembling, but parts making will be taken up later.

The American Taxameter Cab Co. itself has completed its organization so that the list of officers is now as follows: T. H. McInnerney, president; L. H. French, vice-president; W. B. Hurlburt, treasurer, and C. R. Teaboldt, secretary. The name of Frank A. Merrall, of Acker, Merrall & Condit, New York, has been added to the directors' list.

Philadelphia's Show Plans.

Dates for Philadelphia's automobile show have been fixed upon as January 23 to 30, and an effort will be made to obtain the Academy of Music instead of the First Regiment Armory which has been used heretofore. The Philadelphia Automobile Trade Association held its meeting last week, and put the control of the show in the hands of a committee consisting of President J. A. Wister, of Gawthrop & Wister; W. F. Smith, manager of the Philadelphna Rambler branch; and E. H. Fitch, local manager of the Diamond Rubber Co. The active management will be in the hands of J. H. Beck, as in former years.

Trade Tickets at Palace Show.

Details of the Grand Central Palace show, which opens on New Year's eve, were the subject of meetings on the part of the show committee of the American Motor Car Manufacturers' Association last week. The main floor and part of the first gallery will be occupied by American and foreign pleasure vehicles, and the taxicab division will be on the first balcony along with the commercial vehicles and motorcycles. The accessory makers will be on the first and second galleries. A liberal trade ticket plan for exhibitors has been decided upon.

Babcock to Make a Buggy Type.

A buggy type of automobile will be a new Watertown (N. Y.) product in the near future, the H. H. Babcock Mfg. Co. having decided to enter the field. Gears and motors for the trade are also to be made in the new factory which is being built adjacent to the company's other buildings.

Gramm Starts His Own Concern.

B. A. Gramm and Fred Bisantz have severed their connection with the Logan Construction Co., of Chillicothe, O., to devote themselves to the Gramm-Logan Motor Co., which Gramm has formed. A factory in northern Ohio has been chosen and work will commence within a few days.

Will Produce Motor Car Parts.

The Jackson, Church & Wilcox Co., of Saginaw, Mich., which has for some time been engaged in the manufacture of iron and steel products, has decided to take up the manufacture of automobile parts. To this end it is erecting a large factory supplementing its present buildings.

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STANDARD RIM IS APPROVED

Experts from Associations of Car Makers Unite on a Design—Details of Construction.

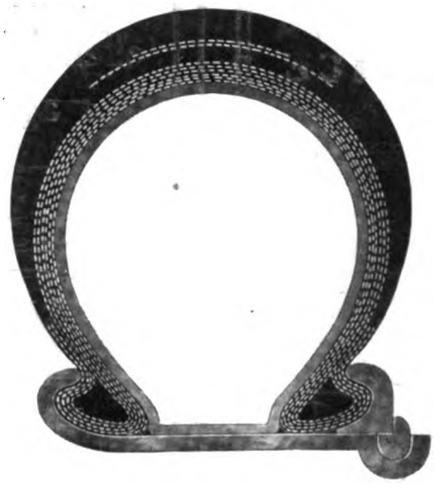
After two years of delay and interruption, the project for a standard quick detachable rim for general adoption by American automobile makers has assumed definite and concrete form. A new rim, differing in detail from any of the rims now on the market has been evolved, and has met with the approval of special committees appointed to investigate the subject by the Association of Licensed Automobile Manufacturers, the National Association of Automobile Manufacturers, and the American Motor Car Manufacturers' Association.

Efforts were made about a year ago to have the makers agree on one form of rim, but were discouraged to some extent by President Cutler of the Licensed Association, who took the the position that his association could not bind its members to adopt any particular style, even if it were selected by all the special committees. Despite the rivalry of the various rim makers and tire concerns, these interests have all along expressed themselves as ready to cooperate for a standard rim when the car makers as a whole could themselves decide on one and would back their decision with equipment orders.

The Licensed Association, whose Mechanical Branch is largely responsible for the form of rim which is now offered as the standard, has accepted the report of its special rim committee, and will urge the adoption of the new rim on all its members. Other large makers will be reached through the American Motor Car Manufacturers Association and the National Association of Automobile Manufacturers, the lesser and unattached manufacturers being depended upon to come into line through trade expediency and example.

In general construction the rim adopted follows certain principles which already have been approved through direct service in other devices of the sort. The main section comprises the base or rim proper and the inner flange, which is permanent. The outer flange is formed by a removable flange or ring, which is reversible, while this, in turn, is held in place by means of a second and locking ring. The latter is broken at one point in its circumference, while a tongue formed on its lower side, is arranged to interlock with a recess in the rim, by which it is secured from rotating about the latter and from springing out of position.

Two points of absolute novelty are to be found in the arrangement. One is the formation of the removable ring in such a way that in either of its two possible positions it forms an exact counterpart of the opposite flange without any break in its continuity. The second is the use of a locking ring which, instead of being of uniformly oval section, is recessed by the formation of a right-angled groove in its upper and inner side, in such a way as to permit the side ring to overlap it. In this way the latter is provided with a very broad seating



STANDARD RIM AS USED FOR CLINCHER TIRES

on the rim, while the contrivance also assists in the retention of the locking ring.

The rim is universal in that it will accommodate any tire of standard dimensions of either the clincher or Dunlop types. As shown in the accompanying illustrations, the method of adaptation to these two constructions is made plain, as is the sectional shape of the rim itself and the removable



STANDARD RIM AS USED FOR DUNLOP TIRES

flange and locking rings. For the accommodation of the Dunlop type, it will be observed that the outer flange is merely reversed and replaced, while the hollow of the permannt inner flange is adapted by the use of a special rubber filler ring.

In either position the removable flange is equally secure, and its method of manipulation is the same, so that there is no difficulty in changing from one to the other.

GETS BIG ROYALTY PAYMENT

Electric Vehicle's Coffers are Swelled by Selden Settlements—Report of the Receivers.

The bank account of the Electric Vehicle Co., of Hartford, was materially increased in July, according to the report filed by Receivers Halsey M. Barrett and Henry W. Nuckols, by the payment of Selden royalties by members of the licensed association, the receipts from this source being $236,915.77. This figure in a general way indicates the amount of royalty paid by the licensed concerns for the period from October, 1907, to July, 1908.

As the royalty paid under the Selden patent is 1 per cent. gross of the value of the cars sold, less 20 per cent, for cash in 15 days, the business done from October to July by the members of the licensed association is approximately $24,000,000. The licensed association gets two-fifths of the amount paid to the Electric Vehicle Co., and a payment of $95,533.59 to the association on the Selden patent account is shown by the report. Of its remaining three-fifths, the company has to pay George B. Selden himself a share, and a July payment of $11,776.68 under this arrangement is recorded.

The receivers' report is as follows:

Sales.	
Charges on account and cash sales	$33,803.76
Purchases.	
On account	$5,836.96
Cash	148.47
	$5,985.43
Cash Statement.	
Cash on hand July 1, 1908	$121,196.64
Cash collected on E. V. account	86.03
Cash collected on rec. account	31,968.02
Selden royalty	236,915.77
	$390,166.46
Disbursements.	
Pay roll	$13,404.72
Trading expenses	50.00
Principal creditors	14,092.89
Freight and expenses	122.24
Commissions	100.00
Petty cash	148.47
Telegraph and telephone	10.09
Storage	75.00
G. B. Selden	11,776.68
A. L. A. M.	95,533.59
Taxes	12,082.55
	$147,396.23
Cash receipts	$390,166.46
Cash disbursements	147,396.23
Balance on hand Aug. 1, '08	$242,770.23

Coey's Taxicabs Destroyed by Fire.

Over 50 automobiles and taxicabs were destroyed by fire Wednesday, 12th inst., at the garage of C. A. Coey & Co., 1710-1718 Indiana avenue, Chicago. Coey's insurance was $11,000, which was but a small part of the total loss.

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That the White raises less dust than any other car was proven beyond question in the "Dust Competition" held last year by the Royal Automobile Club of England on the Brooklands race track. In fact, so far superior was the performance of the White to that of all gasolene cars that the "Dust Competition" to be held this year is "for gasolene cars only." It has been arranged, however, that, in order to establish a standard, the White shall make trials under the same conditions as the gasolene contestants. The first prize is to be awarded to that gasolene car which makes a performance nearest in merit to that of the White.

WRITE FOR LITERATURE

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The Need of a Standard Rim.

With the placing in nomination of a new candidate for the long-sought standard quick detachable rim for general use, and evidence that it may receive the official sanction of the three great manufacturing organizations, renewed emphasis is placed upon the importance of arriving at some definite conclusion in the matter. Tire construction offers many perplexing questions for decision, but perhaps none of greater present importance than the question of attachment. The introduction of the several types of quick detachable rim in present use has proved one of the greatest blessings the user has yet received. But not until it be possible to recognize a truly universal rim will the blessing be complete.

Of all the vexed problems which have followed in the train of the automobile, the tire problem has proved the most difficult of solution. Its vital nature in the matter of the expense of car upkeep assumes greater significance as the other items of expense are reduced through improved methods of construction. Furthermore, as it serves to reduce time losses on the road as well as labor and inconvenience, the importance of the quick detachable type increases in equal ratio. The facts that by its use the number of tire failures due to improper manipulation is decreased and that less skill is required in handling it than in the use of the plain clincher type, also count tremendously in its favor.

That the adoption of a satisfactory universal method of construction, however desirable it may be, is not a simple matter, is in no way better evidenced than by the fact that the question has been under expert consideration for two years without any definite conclusion having been reached. Nor is the difficulty wholly one of the accommodation of a number of conflicting manufacturing interests. In the purely structural sense, the problem offers many obstacles which are not to be surmounted readily. Many of the otherwise effective solutions which present themselves are useless for the purpose because of the particularly arduous duty which is thrown upon the rim; its exposed location, the severe and varied stresses which it must resist, and the unavoidable presence of quantities of dirt, mud and grease. The truly successful rim must be a marvel of simplicity and security.

Once developed and introduced, however, there can be no question of the cordiality of its reception. Whatever may be the limit of advisable standardization in automobile construction, it is unquestionable that all tires should possess the virtue of absolute interchangeability.

Rural Free Delivery and Good Roads.

In the spread of the good roads movement the fact must not be lost sight of that the Rural Free Delivery of the mails may be made an effective weapon of advancement. Just as the carriage of the mails on railway trains has been made an important factor in the development of the fast schedule, the improved facilities for handling the farmer's budget of correspondence and his papers which the good road presents in conjunction with the free delivery route of the country may be turned to good account. The motor vehicle is coming to be of recognized importance to the rural letter carrier, and the amount of time which he is enabled to save by its use constitutes a virtual reduction of the distance between the farm and the town. Yet the efficacy of the motor vehicle depends to a great extent upon the condition of the highways over which it must be driven.

When the farmer learns that his own neglect of the highway problem must involve a break in the regularity of the postal service at certain seasons of the year, he is destined to be aroused to the value of overcoming the obstacles which interfere with it. Furthermore, the likelihood that in time, the post office department may come to regard neglect of the highways over which its routes are laid as interference with its business, should hold out additional inducements for the development of automobile mail service. It is difficult to conceive of any single line of progress more comprehensive in its effects that that of the rural free delivery. And where its application may be made to affect the automobile industry as well as the automobilist in so general a way, no pains should be spared to work for its further spread.

Value of the Production Engineer.

In the light of the rapidly increasing movement for multiple production in the industry, the importance of the production engineer is rapidly becoming augmented to a point of absolute supremacy in the manufacturing department. Both in the matter of parts and complete machines, facility and economy of production are receiving constantly increasing valuation. The very design of the machine is made to a degree, subject to the ease with which it lends itself to the tools of the builder, and just as the construction of the special tools required for any of the modern processes forms one of the most vital elements of the process, so the man who is capable of originating those processes and tools is granted a mark of consideration to which he is justly entitled.

The peculiar aptitude which enables him to see in any given finished part not an element in a complex machine, but a problem to be solved—the product of a number of possible methods of evolution from the raw—and the nice discrimination which enables him to choose from several such methods the most economical and satisfactory one, are gifts developed by long training and special qualifications, which enable the true production engineer to assume a position of command and earn the high regard which is his justly earned reward.

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In the automobile field is manifest a growing tendency to recognize the importance of this office and to depend upon its services. In many instances the task of laying out the work of production is not relegated to any one man, but is evolved in consultation. In others, it falls upon the shoulders of an overworked superintendent and receives only such attention as he can spare for it. It is a mark of growing industrial efficiency, however, that the number of plants which are being worked upon a more liberal basis is increasing rapidly.

That some of them are attracting men from outside the confines of the industry itself—men whose training has been entirely in lines where rapid and accurate work on a large scale has become a specialty, but adds another point to the argument that the business of making and selling automobiles is fast assuming well regulated proportions and that it presents a constantly broadening field for skilled engineering talent.

Again it appears that the only satisfactory solution of the touring contest problem rests in the adoption of automatic, mechanical observers. The recording speed ometer-odometer, or some device of its class, would record the speeds and running times of the cars with mathematical precision. The calculation of results, decisions as to questions of technicality, and all protests, would be left to the discretion of the judges. The human element of the ignorant or erring individual nominated by the contestants to fill a necessary place in the program and carry on duties of a doubtfully welcome character would be avoided, and the tourist and his party would be left to themselves. Why this idea has received no more than casual attention hitherto, is difficult to conceive.

A point of advantage of automobile travel over that which may be accomplished by railroad is that where the train follows its iron trail through winding valleys and under the hills, the automobile overtops it, and follows the sky-line. The better view, the better air and the spirit of freedom and conquest are thus a potent factor of enjoyment to the tourist who uses the modern method of transportation. That he may secure these advantages at wonderfully low cost, all things considered, and with no material sacrifice of bodily comfort, but adds to the pleasures of the tour.

CHICAGO AND M. A. M. MEMBERS

Show Situation Worries Accessory Men Who Want to Exhibit—N. A. A. M. Will Not Yield.

Considerable trade speculation has been set astir as to where the Motor and Accessory Manufacturers, Inc., is going to find itself as a result of the action of that part of its membership which gathered at Atlantic City, in taking the position that the whole association must refuse to exhibit at the Chicago show unless further special price concessions are made on space. Since a great part of the membership of the M. A. M. is drawn from firms who belong for practically no other reason than to get advantageous show space through the brokerage of the association, not a little uneasiness has been created among them as to how they are going to get out of the difficulty in which they have been placed so far as exhibiting at the National Association of Automobile Manufacturers' show in the Windy City is concerned. As the latter association has already made it plain that it will not reduce the price of space, the members of the accessory association must either stay out of the show or brave the possibility of not being permitted to exhibit in the M. A. M. space allotment at the New York shows.

Several of the larger members of the association are already devising methods for circumventing the full effects of the situation, arranging a plan by which their products will be well represented at Chicago without imperiling their rights to M. A. M. space at the New York show. Others, who are not satisfied at having to resort to measures of this kind, give intimations of revolt against the action at Atlantic City and some very frank expressions of opinion are being given. One prominent maker of accessories expresses great surprise that the association should antagonize the automobile manufacturers by demands for further concessions, particularly as the price of space at Chicago is lower than at the New York shows.

"At the Madison Square Garden show," he said, "we pay from $1.55 to $1.75 a square foot, participating in whatever dividends are declared, on the same basis as the Licensed car exhibitors, while at the N. A. A. M. show in Chicago we pay only 90 cents a foot, with 15 cents rebate to our association. As the Chicago show is the biggest of the lot, and will probably have more visitors than any of the other shows by reason of the fact that fully 60 per cent. of all the automobile business of the country has been done in the Middle West this year, there are a great many of us who feel that we want to show there if anywhere and are perfectly willing to pay the price. As things stand now, the M. A. M. would prohibit our exhibiting there under penalty of disbarment from M. A. M. space at the other shows, and we are decidedly up against it.

"To have a traveling salesman like Fred Castle introduce a resolution that binds us all against showing at Chicago unless the M. A. M. gets a bigger divide with the automobile makers seems bordering on presumption, as there is a whole lot of doubt as to how far such a traveling salesman can be thought to represent the wishes or disposition of the manufacturers in the association, not even excepting the firm he works for."

That the automobile makers are in no mood to knuckle to the demands of the accessory association is very evident from the terms in which members of the N. A. A. M. show and executive committees discuss the ultimatum which the M. A. M. has chosen to make.

"These accessory makers had their case passed upon long before they go up their unofficial ultimatum," said an automobile manufacturer who is a chief in the N. A. A. M. councils. "At a meeting some time back, we discussed the status of the accessory exhibitors and decided emphatically at that time that they were entitled to no more concessions than they had already received. In fact many of the automobile manufacturers thought we were treating them altogether too liberally. If they attempt to interfere with the success of our show at Chicago, it will have no harmful effect on us, as the space can readily be sold at much more profitable figures."

COMING EVENTS

August 14, Algonquin, Ill.—Chicago Motor Club's third annual hill climb.

August 15, Rochester, N. Y.—Rochester Automobile Club's annual gymkhana contest at Genesee Valley Park.

Sept. 1, 2, 3, and 4, Chicago, Ill.—Chicago Motor Club's postponed 1,000-mile reliability run.

September 5-9, Los Angeles, Cal.—Automobile Dealers Association's reliability run to San Francisco.

Sept. 7, Columbus, Ohio.—Columbus Automobile Club's race meet.

September 7, Lowell, Mass.—Lowell Automobile Club's 200 miles road race, on Merrimac Valley boulevard.

September 7, Columbus, Ohio.—Columbus Automobile Club's race meet.

September 7-12, Hartford, Conn.—Connecticut State Fair Association's outdoor show and grand circuit races at Charter Oak Park.

September 11, Springfield, Mass.—Springfield Automobile Club's hill climb on Wilbraham hill.

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DEMOUNTABLE RIMS IN A CONTEST

Diamond Wins in Practical Competitive Test at Chicago—Five Contestants Meet Strenuous Conditions.

Five cars, equipped with four varieties of demountable rim, took part in the "demountable rim contest" of the Chicago Motor Club on Thursday last, 6th inst. The first event of the sort to be held, it furnished an unusually happy method of comparing the respective merits of the devices under test.

First prize was awarded to the Diamond rim, its time of 5:36⅗ being composed of the added time for three changes, corrected by the addition of 24⅗ seconds penalization. Other rims tested in this way were the Continental, which was awarded second place, the Fisk and the Nadall.

The rules of the contest provided for four tire changes during the race, each of the four tires being shifted under the eye of an official observer, at different points along the famous Elgin-Aurora century course. When this test was completed, each car was required to make a special road test of the rims. Slipping and loosened bolts or nuts were taken note of and time penalties added for readjustments.

Five entrants participated. These were Diamond on an Isotta car, Fisk on a Chalmers-Detroit, Fisk on a Knox, Continental on a Packard, and Nadall on a Pierce Arrow. Comparisons at the finish showed that there was less than two minutes difference between contestants in time required for changes.

The Isotta, fitted with the winning Diamond tires, made a bad start, and lost its way on a wrong road soon after leaving Chicago. After cruising about for three or four hours, it finally rejoined the others at Elgin, long after the latter had finished. When the official examination was completed, however, this car, with its crew composed of William Kissner and George Brewer, proved to be the winner, despite ts tantaliiing experience.

The Continentals on the Packard were penalized 32 seconds due to loose nuts, while the Fisk entries came next. The latter, while getting only third place at best, won considerable glory by grabbing off the fastest single change made by any one of the contestants, dismounting and mounting a new rim in 53⅕ seconds at Ontarioville, while at Elgin the other Fisk entry recorded 54 seconds.

The Nadall demountable is a newcomer in the field and embodies some exceptional features, its particular advantage lying in the fact that there are absolutely no parts to lose and that the change can practically be made in the dark.

Diamond Demountable Rim—Isotta Fraschini car, George A. Brewer driver. Time, 1:01⅗, 1:25⅗, 1:45, 0:59⅗, penalty 0:24. Total, 5:36⅗.

Continental Demountable Rim—Packard roadster, Jack Hessler driver. Time, 1:02, 1:58⅕, 1:05⅗, 1:10⅗; penalty 0:32. Total, 5:48.

Fisk Demountable Rim—Knox roadster, H. W. Crane driver. Time, 1:07⅕, 0:57!, 5:53⅕, 5:58⅘; penalty, 1:53⅕. Total, 5:59⅘.

Fisk Demountable Rim—Chalmers-Detroit roadster; W. F. McCarthy driver. Time, 1.11⅗, 0:57, 1:01⅕, 0:54; penalty, 3:06⅗. Total, 7:10⅕.

Nadall Demountable Rim—Pierce; Paul Hoffman driver. Time, 2:02⅗, 1:17!, 1:25⅘, 1:29⅘; penalty, 1:20⅘. Total, 7:35⅘.

Planning Welcome for Thomas Crew.

Suitable demonstrations of joy and welcome are to be given George Shuster and George Miller, the triumphant drivers of the New York-Paris Thomas car, when they and the machine arrive in New York. They will come on the Lorraine and are due about August 18. The Harry S. Houpt Co., New York agents for the Thomas, will conduct an elaborate jollification, and Thomas car owners from all over the East will participate in the festivities. Delegations from the E. R. Thomas factory at Buffalo will also be present, and parades and other "doings" will arouse the public to "see who's here."

Because Diamond tires were used on the Thomas throughout its journey, the Diamond Rubber Co. feels its proportionate share in the victory, special commendation of the service the tires rendered having been given publicly by the Thomas people.

Lee Speediest on Chapel Hill.

Five events constituted the program of the hill climb on Chapel hill, New London, Conn., on the 1st inst. Incidentally the occasion afforded an opportunity for Corbin cars to come very close to making a clean sweep. That the opportunity was seized is shown by the results of the meet, for four events were won by this one make of car, which was not represented in the one other number on the program—the Class A event for cars selling for less that $1,200. In the free for all a new record for the hill was established by Arthur S. Lee, who drove a 30 Corbin, owned by H. B. Kenyon, of Eastern Point, up the incline in 1:12⅘, clipping ⅕ second from the former record.

Torrington Motorists Form Organization.

Motorists of Torrington, Conn., and vicinity have organized under the name of the Litchfield County Automobile Club. The following officers have been elected: President, N. D. Holbrook; vice-president, John N. Brooks; secretary, W. P. Norton, Jr.; treasurer, G. E. Cole. The club will join the Connecticut Automobile Association, and through that organization will be affiliated with the American Automobile Association.

STIFF COURSE FOR A CLIMBFEST

Wilbraham Hill Selected for Springfield Meet on September 11—Good Roadway but Very Heavy Grades.

One of the most severe tests ever offered to automobiles is now being prepared by the automobile club of Springfield, Mass., which became especially prominent in automobile circles through its being the first city to have a good roads convention and which is one of the livest automobile cities in the country. This test is to be a hill climb on Wilbraham hill, September 11. The course that is now being prepared will be one mile long and almost straightaway, without any of the dangerous curves that have marked other hill climbing courses, such as Giant's Despair in Wilkes Barre, Pa., or Dead Horse hill in Worcester.

The main features of this course will be the grades which will range from 8 to 22 per cent. The length of the hill is 5,280 feet, with a rise of 451.1 feet. The steepest grade is 22.1 per cent. and the average grade 8.58 per cent. Just before striking the 2,640 foot mark, the cars will get a down grade of 2 per cent., which will help them gather headway for the steepest part of the hill.

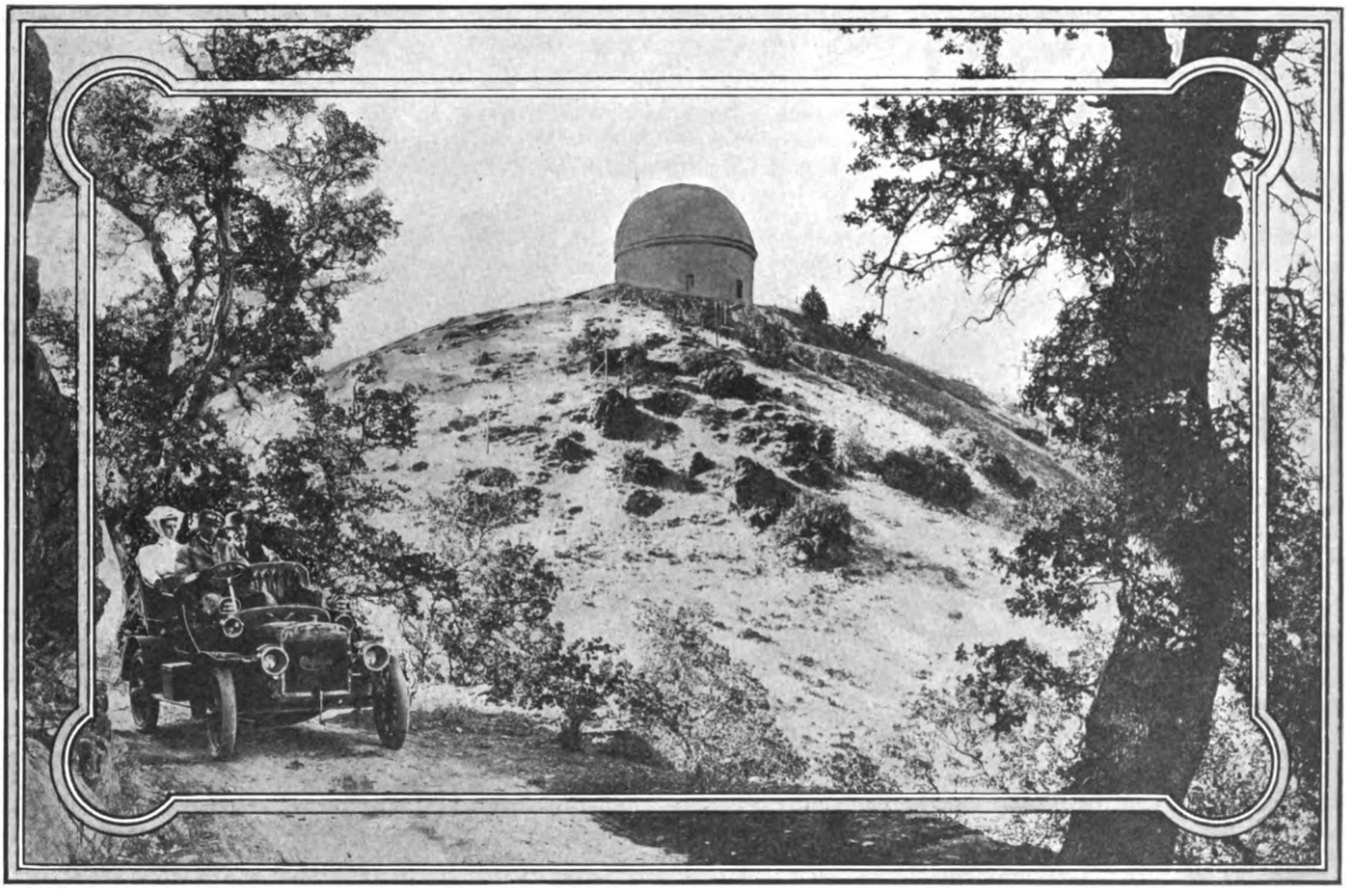
Originally, there was a wicked turn in the hill which, if left, would have made the climb prohibitive, but this turn is being bridged and other repairs are being made on the hill by the local club and when finished, the course will be as straight as the proverbial straight and narrow path. However this regularity of course and smoothness of roadbed which the club will make a feature of the course does not in any measure reduce the difficulty of the proposed climb.

The club has received from the American Automobile Association the necessary sanction, and since that time the committee in charge has been hard at work perfecting the plans. Although the list of events and prizes has not been prepared as yet, President Mark Aitken, of the club and one of the prime movers in the proposed climb, has announced that he will offer a handsome silver cup to be known as the President's cup, for the fastest time made on the hill, regardless of the event. This offer will enable some fast car to win two prizes instead of one and to also have the honor of making a record on Wilbraham mountain, which honor will be well worth winning without the cup.

As an ideal spot for an automobile contest, Wilbraham mountain probably has no equal. Within easy access from the city proper, it has a most picturesque location. There is ample room for cars of the contestants, visitors and the gathering of spectators on foot that always turn out for such an event. Several years ago this club held an automobile hill climb and the experience

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AUTOMOBILE STAGE LINE TO A MOUNTAIN TOP



Climbing steep mountains with the motor car is getting to be child's play. This was demonstrated on the last two Glidden tours and the question now is: "Where will the automobile go next?" It would seem that there is no limit or restriction to its possibilities. Nature may have erected a sign, "No Admittance," in places for a time, but the American tourist with his American car does not believe in "signs." The canyons and heights of the Golden West that the short-story fine-writers glory over in the popular magazines, no longer hold any great terrors for the motorist.

Thousands of tourists who annually visit California, have a great desire to ascend Mt. Hamilton and see the sights at the world-famed Lick Observatory. It has always meant an exceedingly long tedious trip as no ordinary locomotive could make the climb. Heretofore a stage has been the common method by which tourists reached the top, but John H. McGehee, of Letcher's garage, San Jose, Cal., an aggressive motorist, calculated that an automobile stage would be the thing. He investigated at considerable length to find a car which was capable of doing the work. The friction driven Cartercar was finally selected to tackle the stiff task in which constant "climbing" and "braking" is required. The car is doing the business.

The accompanying picture shows it at its daily work. The road has an elevation of 2,100 feet in a distance of seven miles, and passengers riding at this altitude "can count the freckles on the face of the man in the moon," according to the facial specialists out that way. Anyhow, it is a good pull for an automobile. The view was made only recently, but the perpetual snow will be noticed upon the ground and shrubbery.

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gained in conducting that affair has aided materially in the arrangement of this, so that there is every promise that the climb will be successful.

The committee in charge of the climb comprises the following members. Mark Aitken, Arthur A. Adams, Albert E. Lerche, J. Walter Norcross and Merrill T. White.

Chicago Fails to Get Sanction.

That the American Automobile Association does not wish anything to detract from the interest in the Vanderbilt Cup, is evidenced by its failure as yet to grant a sanction to the Chicago Automobile Club to hold the contest for the Jefferson de Mont Thompson cup over the Indiana course in the fall. With Savannah competing with the Vanderbilt for prestige, the Three A's evidently feel that one big road race under its own auspices is sufficient for the rest of this year. That such a project would be better received in connection with an early 1909 date, is to be inferred.

When the office of the association was consulted for information on this subject Wednesday, a non-committal reply was received. The latest issue of the Journal of the Chicago Automobile Club comments on the matter in a manner that indicates that the question is not settled. It says:

"Plans of the Chicago Automobile Club racing board for a speed classic over an Indiana circuit next fall have come into sharp collision with the Vanderbilt race. The outcome is at present uncertain."

Muskegon Holding Floral Parade.

"Old home week" in Muskegon, Mich., which now is being celebrated, is to be the occasion of a big automobile floral parade which will take place to-day (Thursday). About 2,500 former residents of the city have returned to their native place and arrangements for their entertainment have been elaborated.

The Auto Club of France finds that receipts for this year's grand prix competition at Dieppe totalled $100,000. The expenditures were $72,000.

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CURTAIN RAISER FOR SAVANNAH

Race for Light Cars to Precede the "Outlaw" Grand Prize Event—Two Hundred Miles the Distance.

Plans have been prepared by the contest committee of the Automobile Club of America for a 200 miles race for light cars, to be run in connection with the Grand Prize race to be held at Savannah on Thanksgiving Day. This will be patterned after the Voiturette race held on the Dieppe circuit in France, on the day preceding the recent Grand Prix contest there. It will be held over a 10 miles parallelogram circuit, running for the greater part over a section of the main 28-mile course.

Henry Souther, chairman of the Technical Committee, has announced the conditions for the event, which will be held a day or two, or perhaps a week, before the 400 miles contest for racing machines. All entries must have a minimum weight of 850 pounds and 3¼ inches has been fixed as the maximum bore for four cylinder motors. For motors of other types an equivalent effective maximum area has been fixed in accordance with the following table, which allows for motors of from one to eight cylinders:

For Four Cycle Motors.	in.	mm. of bore
For one cylinder	7.50	190.8
For two cylinders	5.30	135.1
For three cylinders....	4.33	110.1
For four cylinders	3.75	95.4
For six cylinders	3.66	77.7
For eight cylinders	2.65	67.4
For Two Cycle Motors.		
For one cylinder	6.35	160.0
For two cylinders 4.50		114.0
For three cylinders	3.65	92.0
For four cylinders	3.18	81.0
For six cylinders	2.58	65.0
For eight cylinders....	2.24	56.0

The 850 pounds weight limit was arrived at by the Technical Committee, after a thorough investigation of the various light cars now on the market and this weight of entrants will be considered in the same manner as large cars; that is, stripped for racing trim.

The purpose of the proposed event is the laudable one of encouraging the development of small four and two-cylinder cars and also two-cycle engines. Many manufacturers are now building these small machines, it is explained, and would enter into contests more freely if the performances of the lighter product could be shown to advantage and not snowed under by the more exciting and sensational exhibitions of larger, higher powered cars.

To encourage entries it is announced that tryouts will not be confined to one or two hours in the early morning, as is the case on Long Island. But beginning October 1st, the course will be patrolled and placed at the disposal of candidates for four hours each day. According to the publicity bureau of the A. C. A. enough American entries are expected to warrant holding an elimination race for the Grand Prize candidates, as the latter "big" event is limited to 25 cars.

Outside the confines of the club, however, it is believed there is no need to worry on that score, as it is questioned whether the entry list of domestic cars will swell to any such extent. Due in a large measure to the fact that the Savannah meet is to be held in opposition to and without the sanction of the A. A. A., iti s expected the entries will be considerably restricted.

Gymkhana Scheduled at Rochester.

Plans have been completed by the Rochester (N. Y.) Automobile Club for the annual gymkhana which is to be held on Saturday next, 15th inst., at Genessee Valley Park. Twelve events will constitute the program, and as usual, considerable novelty will be injected into the affair.

In the 100 yards dash the contestants will drive with the wheels running on narrow strips of wood. The driver going the longest distance without leaving the track in the fastest time will be declared the winner. In the "hospital contest" a dummy will be thrown in front of a car moving at the rate of 15 miles an hour. Each car will carry a passenger, who must get out of the machine pick up the "injured" and return with him to the car which then will be driven to the "hospital" at the end of the line. The car accomplishing this feat in the least time will be declared the winner.

Dates for Chicago Reliability Run.

Definite dates have been set for the 1,000 miles reliability run of the Chicago Motor Club who have named October 6th, 7th, 8th and 9th, as the days of the contest. Originally the intention was to run the event in September, but fear of the equinoctial storms caused the latter days to be selected. Another reason which prompted the selection of these dates was the fact of the roads in that section of the country being at their best in October. Eight entries for this event already have been received and it is expected that last year's entries, which numbered 35, will be exceeded. The club will hold its third annual hill climb at Algonquin on Friday, 14th inst.

Registration Figures from Illinois.

Statistics compiled in the office of the Secretary of State of Illinois show that more than 15,000 automobiles now are registered in that State. Of this number, the month of July showed 920 new registrations, while June brought 918 into the list. The statistics show also that 118 different makes of cars were sold in the State during July.

There now are eight taximeter cab companies operating in London. The average day's income from each is about $11.20.

PURELY A TOUR OF THE TOURISTS

Only One Make of Car in Long Trip from Los Angeles—Reliability Test and Pleasuring Combined.

What is in many respects one of the most unique tours of the year started Wednesday from Los Angeles, Cal., under the auspices of the Auto Vehicle Co. of that city, the makers of the Tourist cars. It is purely a Tourist run and besides affording a measure of diversion for the entrants, it serves the purpose of demonstrating the strength of a purely local concern, which, from a comparatively modest beginning, has developed considerable strength on the Pacific coast.

The "tour of the Tourists," as the promoting company designates the reliability run, will be over a course slightly more than 1,000 miles in length and will consume 11 days. The longest day's ride will be 162 miles, and the shortest 55 miles, from San Jose to San Francisco. The itinerary provides for a two days' stop in San Francisco, and one day in Del Monte, where a special program has been arranged for the entertainment of the entrants.

The itinerary and time table of the run is the most complete thing of its kind that has been produced. It is a double page folder much in the form of a ledger sheet, the divisions on the pages provide space for printing the schedule running time from point to point, the distance between places, the total miles from the starting point; and the schedule of the pilot car. A wide column is devoted to "remarks," and under that head are printed brief comments calling attention to the historical incidents connected with the location, warnings of grade and crossings, road information and comments on the strictness with which local road laws are enforced. Gasolene stations are designated, and the folder contains other information of use to the tourists. Accompanying the folder is a booklet giving an epitome of the laws governing the operation of automobiles in the State and the regulations in force in the cities of Los Angeles and San Francisco.

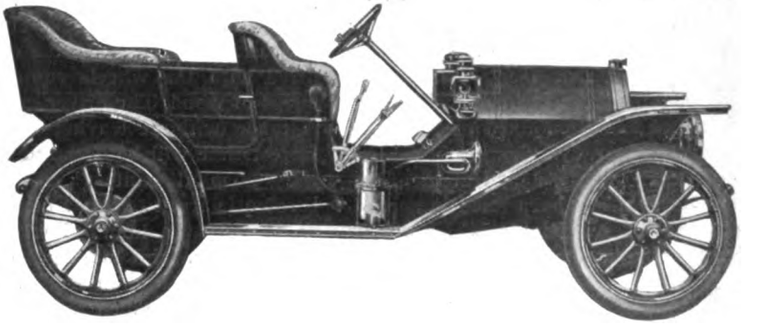
In addition to the usual complement of officials, doctors, committees, etc., who are to be found with many runs of this nature, the tour is unique in that it has as a part of its makeup an "official" mixed quartet, and their accompanist. There is an entertainment committee to provide amusement for the travelers and an historian to make record of the events, that future generations may learn of the glories and accomplishments of the "first annual tour of the Tourists." The affair is planned, not as an endurance trial for men, but on a time schedule which should easily be adhered by a touring car with a full load, traveling solely for pleasure.

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1909

Overland

Tourist



Model 32 — $1,500.00

SPECIFICATIONS

4-cylinder vertical motor, cast singly.
Bore 4, stroke 4½.
H. P., 30.
Lubrication — Mechanical oiler. Positive driven.
3 point suspension.
Water cooled, Thermo syphon.
Spark and throttle control on top of steering pillar.
Double system of ignition with high tension magneto.
Three speed selective transmission on rear axle.
Shaft drive bevel gear.
Internal expanding and external contracting brakes on hubs.
Wheels 34x3½ in. Artillery type.
Goodyear Q. D. Rims.
Water capacity, 5 gallons.
Gasoline, 12 gallons.
Weight, 1,900 lbs.
Wheel base, 110 in.
Tread, 56 in.
41 in. half elliptic front springs.
Full elliptic rear springs with involute ends.
"I" beam front axle.

The model 32 will undoubtedly prove the sensation of a sensational year. This car is in every way equal to machines which have hitherto sold in the neighborhood of $3,000. Only the very best of material is employed and the design of the car is beyond criticism.

A three-speed selective transmission will be used on this car, but it must not be taken from this that the planetary transmission used on our model 30 has not proven satisfactory—distinctly the reverse; but our representatives have urged upon us the necessity of building both types in order to enable them to cater to every class of purchasers, and we have fallen in with their wishes, thus making the Overland line the most complete on the market.

We would particularly draw attention to the fact that our cars are fully equipped for touring purposes, with the single exception of tops, and at $1,500 the model 32 Overland will be without a peer.

Model 34 — 6-Cylinder

We shall put on the market in September a six-cylinder car with 116" wheel base. The list price of this car has not yet been definitely decided, but it will not be over $2,000. This car has been designed to enable our representatives to take care of six-cylinder purchasers.

Watch for our announcement regarding this car, which will be made in the course of the next fourteen days.

OVERLAND AUTOMOBILE COMPANY

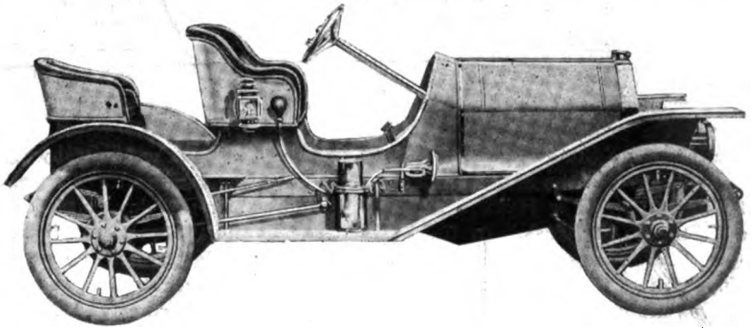
INDIANAPOLIS, INDIANA

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1909

Overland

Roadster



Model 30—$1,250.00

SPECIFICATIONS

4-cylinder vertical motor, cast singly.
Bore 4, stroke 4½.
H. P., 30.
Lubrication — Mechanical oiler, Positive driven by eccentric.
3 point suspension.
Water cooled, Thermo syphon.
Spark throttle control on top of steering pillar.
Double system of ignition.
High tension magneto, gear driven.
Planetary transmission running in oil bath.
2 speeds forward and reverse, controlled by two foot pedals.
Shaft drive bevel gear.
Internal expanding hub brakes.
Wheel 32x3½ in., Artillery type, 1¼ in. spokes.
Goodyear Q. D. Rims.
Wheel base, 105 in.
Weight, 1,600 lbs.
Tread, 56 in.
"I" beam drop forge front axle.
5 lamps, generator and horn.
41 in. half elliptic front springs.
Full elliptic rear springs, involute ends.

The model 30 is the natural development of the Overland Roadster model 24, which has been so extraordinarily successful during the present season. The car has been enlarged in every way, but its salient features have been retained, notably the pedal controlled planetary transmission. The H. P. has been increased from 22 to 30, the wheel base from 96" to 105", the tire equipment from 32"x3" to 32"x3½", a high tension magneto added to the ignition system, and headlights and generator included in the regular equipment.

Semi-elliptic springs have been substituted for the full elliptic in front, and an "I" beam axle for the tubular used this year. The engine is the counterpart of that used in model 24, excepting that the bore has been increased to 4" from 3½". The body is exceedingly handsome in design, giving easy access to the rumble seat.

We are convinced that the Overland Roadster model 30 will be even more successful than its predecessor, and this is saying a great deal, for no car has leaped into public favor with such astonishing swiftness as the Overland.

Our factory accommodation is being trebled, and we shall be in first-class shape to take care of early deliveries. We have already closed many 1909 contracts and applications from unallotted territory should be forwarded immediately.

OVERLAND AUTOMOBILE COMPANY

INDIANAPOLIS, INDIANA

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GOOD CLIMBING AT SALT LAKE

Ten Well Contested Events on Long Course —White Steamer Wins Free-for-all and Makes Best Time.

As is the usual case at hill climbs, the White steamer distinguished itself at Salt Lake City, Utah, last week. The Newhouse cup offered for a free-for-all event in the hill surmounting contest on Saturday, was easily won by Fred A. Dundee, driving J. F. Dunn's 30 horsepower stripped White touring car. The distance was 1½ miles up a 15 per cent. grade, and the steamer purred up the incline in 1:40. In the field against it were a Stearns, Stoddard-Dayton, Studebaker, Pierce Six and the "Blue Bird" racer. Following this performance, in a special match race, the same White won over a Stoddard-Dayton, making the climb in 1:40⅗.

The first event of the afternoon for electrics, went to a last-minute entry, the Fritchie, which was awarded the Keith cup, for getting over the ground in 5 minutes 10⅗ seconds, trimming a Studebaker and a Pope. The Mitchell captured the $1,000 class event without difficulty, and a Jackson got first position in the $2,000 class. In the $3,000 division, E. S. Yankee's Pope-Hartford won the equipped race, while the stripped chassis event was nipped by a Stoddard-Dayton.

C. S. Ruffuer's Stearns beat out a Stevens-Duryea in the equipped touring car event for machines listing at $5,000, and in the same class for stripped cars, a Stoddard-Dayton, entered by the Shannon Auto Co., won, making better time than two Stearns and a Studebaker.

The course extended up one of the steepest grades in the city, along Brigham street to the Government reservation. A sharp turn near the summit was calculated to supply the desired thrills for the spectators:

The summary:

Electric class—Won by Borkman Electric Co. (Fritchie); second, C. A. Quigley (Studebaker); third, A. O. Whitmore (Pope),. Time, 5:10⅗.

Gasolene cars, $1,000 or under—Won by Sharman Auto Co. (Mitchell); second, Maxwell. Time, 3:38.

Gasolene cars, $1,500 or under—Won by C. S. Higson (Jackson). Time, 3:37⅗.

Gasolene cars, $2,000 or under—Won by F. S. Murphy (Jackson); second, E. D. Miller (Kissel). Time, 3:07.

Gasolene cars, $3,000 or under—Won by E. S. Yankee (Pope-Hartford); second, F. S. Murphy (Jackson). Time, 2:29⅗.

Gasolene cars, $3,000 or under (stripped touring cars or runabouts)—Won by Sharman Auto Co. (Stoddard-Dayton); second, Auto Exchange (Jackson); third, Keith Clarke (Pope-Hartford). Time, 1:53⅕.

Gasolene touring cars, $5,000 or under—Won by C. S. Ruffner (Stearns); second, T. Botternell (Stevens-Duryea). Time, 2:01⅗.

Stripped touring cars or runabouts, $5,000 or under—Won by Sharman Auto Co. (Stoddard-Dayton); second, C. S. Ruffner (Stearns); third, H. B. Lamb (Stearns). Time, 1:49⅘.

Free-for-all—Won by Fred Dundee (White Steamer); second, Sharman Auto Co. (Stoddard-Dayton); third, S. Newhouse (Pierce-Arrow). Time, 1:40.

Special match race between two first cars in free-for-all event—Won by Fred Dundee (White Steamer). Time, 1:40⅗.

Oldfield Exhibits to Kentuckians.

At the Blue Grass Fair, Lexington, Kentucky's big annual summer event, Barney Oldfield did a stunt or two in the automobile track races. Monday, August 10, was Automobile Day, and eight events for all sorts of cars were scheduled. The feature of the afternoon was the match race between Barney Oldfield, driving a Stearns, and Charles Soules, for three laps around the famous trotting track. The cars were given a flying start and Soules had the inside rail, which he held all the way. Oldfield was unable to get past him until the home stretch was reached, when the Stearns flashed ahead, winning by a length. Barney's time for the three miles was 3:17.

Later in the day, both of these drivers made mile trials against time, from a flying start. Soules circled the saucer in 59¾ seconds, lowering the record for that track, which was formerly 1:01. Then Barney did a barn-dance around the course, covering the mile in 59¼, which over-shadowed the previous time by one-half second.

According to a Louisville despatch, "the first of the automobile races for amateurs was for motorcycles." The Kirby family won this event, R. W. being first, and H. N. second in a two-mile spin; time 3:05. An Oldsmobile with Suff, of Louisville, at the wheel, cleaned up a two miles fully equipped car event, getting over the ground in 2:46.

Soules captured the free-for-all handicap at two miles, winning over a three-quarters of a mile handicap in 3:11, Oldfield failing to start in this event. Two days previous to the race meet, Barney lived up to his sensational reputation by doing his old favorite trick of plunging his car through a fence. In this, Oldfield came out victorious as usual, smashing the fence to toothpicks and retaining only a few stratches.

Kansas City Re-elects President Cowan.

With a present membership of 229, including several new names enrolled at its annual meeting, the Kansas City Automobile Club has announced the re-election of W. W. Cowan as president. The official board is now made up as follows: President, W. W. Cowen; first vice-president, Elliott H. Jones; second vice-president, W. G. Coumbe; secretary, W. P. M. Stevens; treasurer, Frank J. Dean; directors, W. G. Whitcomb, Dr. E. M. Hetherington, F. P. Ewins, G. H. Davis, J. W. McKecknie, D. E. Gudgel.

PIPE DREAM OF RACE PROFITS

Lowell Automobile Club's Chief Calculator Foresees Financial Success for Big Race—Handsome Net Result.

Despite the indications of the succeeding paragraph this is not a lesson in history, but merely an historical introduction to the story of an arithmetical calculation.

Lowell is a bustling little Massachusetts city, situated on the Merrimac river. Its estimated population of 100,000 is domiciled within an area of 14 square miles. These people pay a tax rate of -1.94 on an assessed valuation of $75,445,738. It boasts not inconsiderable manufacturing interests and—the Lowell Automobile Club.

This club intends to promote an automobile road race on Labor Day, September 7th, as already detailed in these columns, and although more than one month distant, its Chief Calculator has the race already run, mathematically and financially.

Here is the table of expenses and resources of the race that is to be—or may be—as compiled by the Chief Calculator:

Expenses.

Erecting grandstand	$4,000
Erecting bandstand	400
Erecting judges' stand	200
Telephone service, five stations around the course	300
Oiling and fixing road, not to exceed.	1,000
Wiring off road, 10 6-10 miles, labor and material	350
Banners across roadway at turns and in city at depot	300
1,000 red and white flags	50
Caps and sashes for 500 men patroling course	150
Wages for men patroling course, 500 at $2 per day	1,000
30 megaphones	15
25 men to sell tickets, programs and score cards, $2 per day	50
Printing programs and score cards, advertising in program to pay for same	00
Bulletin advertising, printing and distributing	2,000
Incidental expenses	1,000
Insurance	500
Legal expenses	500
Music	300
Total	$12,145

Resources.

9,000 seats in grandstand at $1 each.	$9,000
100 seats at $5 each	500
50 boxes seating six at $25	1,250
10,000 programs at 25c each	2,500
10,000 score cards at 10c. each	1,000
Parking 2,000 automobiles on side roads at $2.50 each	5,000
Parking space to peddlers for sale of eatables, tonics, candies, popcorn, peanuts, etc., and advertising spaces	2,000
Entrance fees, 12 cars at $250 each	3,000
Revenue for vitagraph machines	1,000
Total resources	$25,250
Total expenses	12,145
Profit	$13,105

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ENDURANCE RUN OF AN ELECTRIC

Thousand Miles Journey Successfully Accomplished by a Runabout—Big Daily Average Over Varied Roads.

Electric runabouts, as a rule, are not expected to serve as vehicles of transportation for long distance runs. The entry in an endurance contest of a car of this description would excite more than the usual amount of comment, and while cars of this type repeatedly have made excursions to points 40 or 50 miles distant from their home city, such trips have been either experimental or have been undertaken in an emergency. But despite the reason of, or cause for, these so-called long distance trips, it yet may be asserted that a thousand mile run of an electric runabout has,



BETWEEN DETROIT AND TOLEDO

until very recently been considered an exceedingly difficult undertaking.

Such a journey has recently been placed to the credit of a small electric vehicle. Such a car has traveled from the middle west over rough roads and through hilly country to the eastern coast of the United States.

From Detroit, Mich., to New York City is an approximate distance of 1,000 miles. For an electric car to make so long a trip must be considered more or less a feat of endurance. Endurance runs for electrics had been accomplished before, but this particular journey never had been attempted until July last, when a "Detroit Electric" runabout started from Detroit, when it reached New York on the night of the 23d inst. The little car made its long journey with one set of batteries, charging, of course, along the route. The daily average was 85 miles. From New York the car went to Philadelphia and Atlantic City, from which place it will be shipped back to Detroit and placed on exhibition in the show rooms of its makers, the Anderson Carriage Co.

Two illustrations of the car on its long trip are shown herewith. In one of them may be seen the difficult roads which were encountered between Detroit, Mich., and Toledo, Ohio. The other picture illus-



HILL 20 MILES FROM ERIE

trates the car climbing a steep hill about 20 miles out of Erie, Pa. Equally adverse conditions were met from time to time during the journey and the successful completion of the trip under the conditions which prevailed is distinctly noteworthy.

Nevada Method of Road Building.

Roadmaking usually is considered a science requiring much study and the possession of more or less elaborate machinery. In Nevada, the process of building a road does not entail much book learning or the use of other than home made implements. Dr. Miller of Rawhide, who is running an auto stage from Rawhide to Schurz, makes roads by dragging timbers fitted with cutters over the desert. Twenty horses are hitched to the improvised roadmaker, which levels the sand, cuts the sage brush and makes a fairly good imitation of a road, all in one operation.

For Sightseeing in the Ogden Canyon.

"Rubberneck wagons" in the Ogden Canyon are the latest development in the sightseeing line. The automobiles will be operated over the road beginning at the mouth of the canyon and running in as far as the Oaks. The company which will operate the line has filed articles of incorporation with the county clerk under the name of the Ogden Canyon Automobile company. It anticipates liberal patronage from tourists who do not own automobiles.

PHILADELPHIA'S NEW CAB SERVICE

Quaker City Adopts the Taximeter Vehicle for Public Service—Festal Inauguration of the Local System.

Not long ago the city of Brotherly Love saw a taximeter cab skidding around Broad street. Soon another cab of the same species began to cavort around town and shared the novelty with the first one. Then another put in its appearance and things began to grow serious. But the formal introduction of motor cabs for service at the hotels and railroad stations of Philadelphia, took place on Wednesday, July 29, when President Claude S. Jarvis of the Quaker City Cab Co. held inaugural festivities. Mayor Reyburn and two score other prominent persons, political and otherwise were



PHILADELPHIA'S CAB BRIGADE

the guests of Mr. Jarvis on a short run in brand new taxicabs, to one of the city's leading hotels, where luncheon was served.

The new cabs are of American Locomotive make, have deep yellow running gear and dark brown bodies, and are similar to those of the same make in operation at the Waldorf-Astoria in New York. The motor is a four-cylinder, vertical type, 16 horsepower, and the chassis has a wheel base of 103 inches, with a 55-inch tread, and weighs with body attached, 2,600 pounds. Shaft drive is used.

Stage Line to be Extended.

Having been successful, the automobile stage line which has been in operation between Plainfield and Boynton Beach, N. J., will be extended to take in South Plainfield, Metucken, and Perth Amboy. The car, which will carry 12 passengers, will make two trips each day. It is owned and operated by the Thompson Automobile Co. of Plainfield.

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PRINCIPLES OF PATENT LAW

Legal Light on Their Creation of Monopolistic Rights—Differences Between American and Foreign Systems.

An unusually brilliant elucidation of the principles of patent law is given by Edwin J. Prindle, in a lecture delivered before the New England Society of New Jersey and recently quoted in these columns to the extent of defining what a patent really is. The monopolistic feature of the patent was the most striking point brought out in that connection.

"This monopoly," says Mr. Prindle, "is the reasonable price the public pays for the invention; or rather, it is a way by which the inventor is permitted to pay himself, if he can, for his invention, by supplying it to the public to the exclusion of others, for a limited time, after which the public has the unrestricted use of the invention, which actually cost it nothing. The wonderful material advances from the days of our grandfathers (greater than the sum of all the ages before) is due to the encouragement of the patent laws."

With regard to the material point of patent claims and their relative weight, he continues:

"The claim of a patent, because it conveys a negative monopoly, is one of the most peculiar of all pieces of English composition. The more it says the less it means. It is like a bill of sale for cattle on a Texas ranch. If it purported to give title to all the 'short horned Durham steers with one white foot and three black ones,' it would convey perhaps only two or three steers, while if it said simply, 'all the cattle' it would convey all the steers of every kind, and all cows, bulls, horses and pigs. It might also be likened to a monopoly of everything that would fit into a box. If it said a 'round box having a pin stuck up in the middle,' only round things with a hole in the center would be included in the monopoly (only wheels and doughnuts), while if it said simply 'a box' not only would everything be included that would go into the round box with the pin in the center, but also everything that would go into a round box without the pin, a square box, an oval box, a star-shaped box and every other kind of a box. Therefore, the less a claim says the more of a monopoly it conveys.

"There are thus upper and lower, or maximum and minimum, limits to be avoided in a claim. It must not be so broad as to include earlier forms that were not invented by the patentee, and it should not be so narrow as not to include all possible embodiments of the soul of the invention.

"Having gotten his patent, what can the patentee do with it?

"The court will grant him an injunction against any one who makes, uses or sells any embodiment of the invention. The court will also award him damages for any sales he can prove he lost through the interference of the infringer. It will also award him any profits he can prove the infringer made through the use of his invention. The most valuable of these remedies is that of suppressing competition by injunction.

"When a suit is brought on a patent, the defendant may show, if he can, that the patent is invalid. He may set up any one of the following defenses: That the patentee is not the original and first inventor of the patented invention; that the invention was known and used by the public before it was invented by the patentee; that the invention was described in some publication more than two years before the application for patent was filed. He may also show his machine does not infringe the patent. . . . .

"Not only will the court, by its final decree, grant an injunction to the patentee in a proper case, but, under some circumstances, it will grant a temporary injunction at the outset of the suit. If the patent has been previously sustained by a court, even in a suit between different parties, or in case the public generally has acquiesced in the validity of the patent, the court, in the absence of a very strong showing of new evidence against the patent, will grant a preliminary injunction. As patents are granted in this country only after a careful examination of the prior art by the officials of the Patent Office, and are therefore presumably valid, a preliminary injunction in the absence of a strong showing of anticipating prior art should be granted whether or not there has been a previous adjudication and whether or not there has been a public acquiescence. The United States Court in New York City is tending in this direction, but in this respect it is an exception. The requirement of a previous adjudication or public acquiescence as a prerequisite to a preliminary injunction is an inheritance from the British patent law, where a good reason existed for these requirements, namely, that as there was no examination made as to the novelty of the invention before granting the patent, there was no presumption the patent was valid. During the early years of our patent system, no examination was made, but now that such is the fact, the patentee should not be treated as though his patent were presumptively invalid and made to wait until the termination of a perhaps protracted suit before getting any relief from the infringement of his patent.

"Those who seek to appropriate an invention without paying tribute seldom make Chinese copy of it. They usually make something which, at least, avoids the terms of a claim. So the courts adopted what is known as the "doctrine of equivalents," under which the inventor is entitled to include within his monopoly not only everything which is described by the language of his claim, but everything which is the mechanical, chemical or electrical "equivalent" of what is claimed. This term "equivalent" is necessarily indefinite and it gives the court an opportunity to do what it considers to be equity in the particular case.

"The monopoly granted by a patent is a very convenient one. It includes the three separate branches of the right to prevent others from making, or from using, or from selling the invention. These three rights can be granted either separately or together. . . . . .

"Our own system will be better understood by a brief comparison with some of the principal foreign systems. In America the Patent Office, as I have before stated, makes a careful examination before granting the patent to see that patents are granted only for novel inventions and that the claims are restricted to a monopoly to which the inventor is justly entitled. Thus our patents have a prima facia validity. France, on the other hand, makes no examination before granting a patent, and requires no claims. England has only just begun to make preliminary examinations. Germany subjects applications for patents to a very rigid examination. The United States requires no taxes of the patentee after his patent is granted, as the price of keeping his patent in force for the 17 years. England, on the contrary requires taxes paid annually after the fourth year, and Germany and France require annual taxes. The United States does not require the patentee to put his invention into commercial use, but France and Germany absolutely require it, and England will invalidate a patent for an invention which is manufactured chiefly abroad but only slightly or not at all in England. In the United States, any of the defenses to a patent can be raised in answer to a suit for infringement, and that at any time during the life of the patent. In Germany the only answer to a suit for infringement is a denial of the charge of infringement. If the validity of the patent is to be attacked, it must be by a separate suit for annulment, and such a suit can only be brought during the first five years of the patent. Therefore, after a German patent is five years old, it is conclusively presumed to be valid. In the United States, if one claim of a patent having several claims is proven invalid, that does not affect the standing of the other claims. In England, however, if one claim is proven invalid, the entire patent falls."

"It is perfectly safe to say the American patent system is a permanent part of our jurisprudence, and that future legislation will not be in the direction of curtailing the rights of inventors, but rather of encouraging them by making the enforcement of their rights a matter of less expense and time."

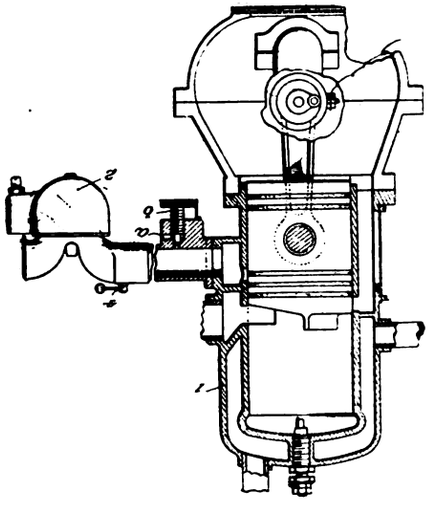
"The A B C of Electricity." Price, 50c. The Motor World Publishing Co., 154 Nassau Street, New York City.

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WINTON INVENTS A TWO-CYCLE

Cleveland Manufacturer Protects Regulating Device for Multiple Cylinder Engine—Features of the Design.

For some little time there have been no developments in the field of two-cycle design which would lead to the supposition that well-established manufacturers of the more familiar type of motor were contemplating a swing in this direction. Nevertheless, the possibilities of the two-cycle motor are so alluring that it would not be surprising were a constantly increasing amount of attention paid to its use in the



future, especially when the successes of the small number of makers who have adhered to it up to this time is considered. On this account considerable speculation may be aroused by the announcement that a patent was issued last week to Alexander Winton and Harold B. Anderson, Cleveland, Ohio, "assignors to the Winton Motor Carriage Co.," and covering a form of "multiple-cylinder two-cycle explosion engine."

One of the difficulties encountered in the construction of multiple cylinder motors of this type hitherto, has been that of securing proper carburation for all the cylinders, with the use of but a single carburetter. Indeed, this difficulty has been so much more serious in its effects than has been the case with the multi-cylinder four-cycle motor, that it has been found necessary in some instances to employ two or more carburetters or mixing valves for the purpose. It has been suggested, however, that by arranging for the dilution of the charge independently in the case of each cylinder, the differences in suction from the various cylinders may be better equalized and a more uniform performance ensured.

This, in a word, comprehends what is apparently the chief purpose of the new Winton arrangement. The claims of the patent stipulate:

"The combination with a multiple-cylinder, two-cycle explosion engine, of a single carburetter having a supply communication for each cylinder, and means for admitting regulated volumes of air to one of said communications independently of both the carburetter and the other communication."

The accompanying illustration shows the general arrangement contemplated. The usual three-port cylinder construction is shown, also provides for the attachment of the carburetter, 2, to the cylinder, 1, at a point where a small chamber communicates with the regular crank case intake port. The throttle, 4, is placed outside the diluting or mixing valve, the latter revealing an air intake at a, and an adjusting screw at b, whereby it is possible to arrange for a permanent modification of the quality of the mixture, such as may be necessary to ensure a perfectly uniform performance in all the elements of the motor.

Adjustment of the Pet Cocks.

Considerable importance is attached to the proper adjustment of the several small pet cocks which are distributed in various parts of the car. If they are permitted to become sufficiently loose so that they will turn freely, there is danger that they will be opened by the vibration of the machine. The result will be the wasting of oil or water, from the cooling system or crank case, as the case may be, or a considerable loss of fuel, if the drain cock on the gasolene line happens to be affected. In the case of the shut off from the fuel tank or the pet cocks on the cylinders, any difficulty of the sort is immediately manifested in the running of the machine. In other quarters, the only evidence of trouble arises from indirect results, such as frequently may be of a harmful nature.

Care of the Floating Axle.

Rear axles of the full-floating type are frequently "built up" of a number of separate sections, including the axle tubes, the central or body section, housing the differential gears, and the torsion tube which encloses the propeller shaft. It is absolutely essential that these parts be retained in their proper alignment, and that they are not permitted to "work" through the relaxation of the bolts which secure them. Particularly when either of the parts has been dismounted for any reason, it is necessary to make sure that in reassembling the proper relation of the parts is not lost.

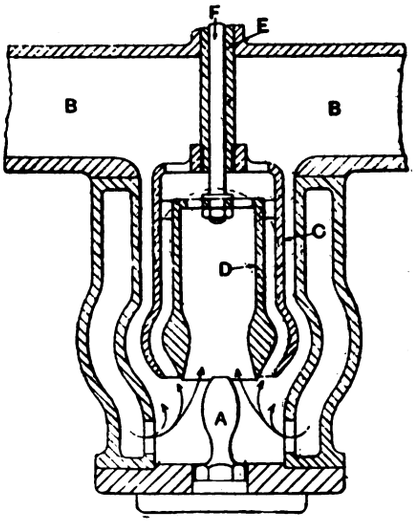
Safely Locating the Shut-Off.

Motor car designers should be especially careful in locating pet cocks or shut-offs to see that they are so placed that there is small danger of their being accidentally disarranged by the clothing of the repairer or driver, or from other causes. The results of such movements are not necessarily serious in their consequences. But they constitute a cource of annoyance.

INGENUITY IN A MIXING DEVICE

Concentric Tubes of Variable Area the Feature in New Foreign Carburetter—How the Flow is Regulated.

Whatever may be said of the success of modern carburetter design both from the standpoints of economy and smoothness of operation under all conditions of load and throttle opening, it is perfectly evident that no complaint can be made on the ground of lack of variety in method of attack. A really astonishing point, however, is that despite the wide variation in method, and the complexity of the requirements involved, a



marked uniformity of action has been attained. In this connection, it is interesting to note the latest development of the Daimler Moteren Gasellschaft, in which the use of the familiar venturi tube has been supplemented by a couple of concentric passages, so contrived that their respective sectional areas may be altered at will, to vary the relative velocity of flow.

The mechanical construction of the device is shown in the accompanying illustration in which the jet nozzle is shown at A, and the induction pipe at B. The spray chamber is broken up by the introduction of the two sleeves, C and D, both of which are adjustable in position. One is moved by means of the sleeve attachment, E, in the vertical sense, and the other is actuated by means of the rod, F. The lower ends of the sleeves are expanded into the peculiar bulbus form, shown.

The two sleeves are actuated independently of one another, either by automatic or manual means, and constitute the entire control of the quality and quantity of the mixture fed to the engine. By moving one of the sleeves in relation to the other, the opening between them is varied, while by moving both together, the area of the passage outside the tube may be varied at will. Altering the position of the rods E and F,

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thus controls the flow of air directly over the jet, and so the suction and lift of fuel into the mixing chamber above, and also the flow of air in the outer passage, thus regulating the amount of dilution which is to be given the rich gas in order to produce the correct firing mixture at the point of delivery to the engine.

A point which is to be observed in this connection also, is that while of unusual form, the parts involved are comparatively simple in construction. This is a characteristic fairly general with modern types of carburetter. In this respect most of them are in sharp contrast to many of the older types, in which the same results were obtained only at the expense of considerable complication, which happily has now come to be recognized as needless.

An Accessory for Night Travel.

While adding accessories to the regular equipment of the car is a form of "tinkeritis," which it usually is well to avoid, it sometimes occurs that some slight addition can be made which is of distinct merit. Such an addition is an electric light which will serve to illuminate the dial of the pressure gauge connected with the gasolene tank on cars which are not designed for gravity feed to the carburetter. The small lights rated at one-fourth or one-half candle power easily may be attached to the dash board in such a position as to throw their ray on the dial; a piece of tin or sheet brass should be shaped and attached to the light so that the operator cannot see the filament; the electrical connection may be made to the batteries through a push button, the latter within convenient reach of the driver. When traveling in dark roads or through unlighted streets it only is necessary to push the button and the position of the gauge hand may be seen and by this means the driver of the car can maintain an even pressure on the tank at all times.

Practical Hints for the Operator.

Where the connection between steering knuckle and reach arm is maintained by a pin held in position by a cotter, it is well to keep careful watch of the latter and to replace it with a new one when it shows signs of wearing.

As the custom in refilling grease cups is to replenish the supply without removing the grease which remains in the cup, it is obvious that some of the lubricant may remain in one place for a very long time. Occasionally this grease should be removed and the cup thoroughly cleaned and freed from all verdigris and possible accumulations of dirt before being refilled.

In inserting a tire valve through the rim, the shoe should be held in such a position as to permit the stem to enter the hole easily. Unless this precaution is taken there is danger of straining the inner tube at the point of connection of the stem with the result of developing more or less serious leakage.

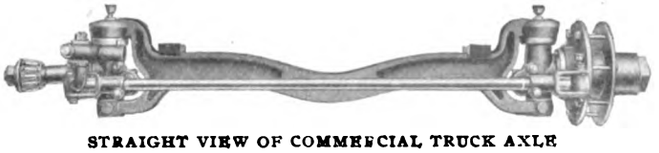
FRONT AXLES FOR MOTOR TRUCKS

New Timken Product for Use in Heavy Vehicle Construction—Details of Its Anti-Friction Mounting.

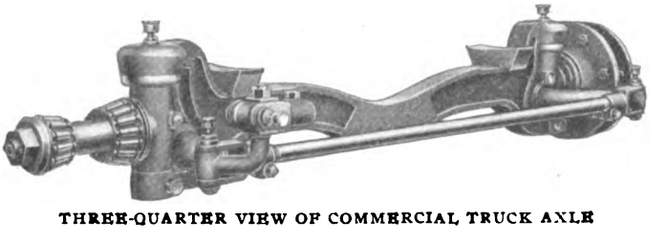
One of the most encouraging symptoms of the progress which is being made in the development of the commercial vehicle is the amount of attention which is devoted to the evolution of special forms of component parts by the makers who specialize in this line. Recognizing in the business automobile not simply a fruitful opportunity in the commercial sense, but also an opportunity for profitable effort in the production of elements which shall combine durability and strength with a minimum of running expense, several parts manufacturers already are bringing out new things in this line from time to time. Typical in this respect, is the new commercial vehicle axle which has just been introduced by the Timken Roller Bearing Axle Co., Canton, Ohio, a firm whose enterprise in this quarter, it should be mentioned incidentally, has been rewarded with an even greater amount of patronage than has been secured in the field of the pleasure vehicle.



TOP VIEW OF COMMERCIAL TRUCK AXLE



STRAIGHT VIEW OF COMMERCIAL TRUCK AXLE



THREE-QUARTER VIEW OF COMMERCIAL TRUCK AXLE

As in the lighter models of front axle produced under this mark, the objective of the designer has been to combine the greatest possible load-carrying capacity per unit of bearing with the required durability, as well as resistance to load and end thrusts—the latter being a class of stresses which are especially to be guarded against in vehicles which are to be heavily laden. Just how this has been accomplished, the accompanying illustrations are well calculated to reveal.

The axle proper is of the conventional I-beam type, slightly dropped in the center and carrying unusually heavy yokes for the reception of the Elliott type knuckles. The pads upon which the spring seats are mounted are forged integral. The seats themselves, however, can be located as desired. This permits considerable latitude of design without involving any modification of the axle and greatly increases its adaptibility. The great range of center to center widths thus provided for is best shown in the top view of the axle.

The axle is entirely roller bearing mounted. That is to say, the anti-friction provision is carried out even in the steering connections, which is most important considering the amount of dead weight which must be carried and the slow rates of speed at which it is to be driven. The standard conical type of bearing is employed throughout, and is used not simply in the axle stubs, but in the steering knuckle heads, where the actual support of the load is concentrated, and the universal joint steering connections. Hardened and ground steel bushings are employed and grease cups are fitted at all points where regular lubrication must be assured.

It will be observed that the axle is arranged for the usual cross steering layout common in vehicles of this type, no separate steering arm being required for the attachment of the connecting rod. Instead it is coupled directly to one of the arms to which the cross bar or link is attached, thereby simplifying the construction.

The outside dimensions for the standard section are 2½ inches width and b inches depth. It is figured for a load, including the axle weight of the vehicle, of 18,000 pounds.

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PENAL CODE REACHES JOY RIDERS

Unwarranted Use of Employer's Car Lands Chauffeur in Prison—First Case of the Sort in New York.

While no law exists in New York State enacted solely for the purpose of protecting automobile owners from "joy riding" employes, it has been discovered that a section of the penal code may be used as a basis of action against chauffeurs for using their employer's automobiles without permission. The first man to receive sentence under this act, for the unsanctioned use of a motor car, was Charles A. Terrell, of New York City, who, on Wednesday last, was sentenced by Justice Wyatt in the court of Special Sessions, to serve thirty days in the city prison.

Terrell had been arraigned under section 675 of the penal code, which forbids the wilful or malicious destruction of property. It was charged by his employer that on the night of August 3d, the chauffeur had taken the automobile from the garage without permission and accompanied by a party of friends, had used the car for 30 hours. It further was alleged that by reason of this trip the car had suffered damage to the extent of $100 for wear and tear and the expenditure for gasolene.

After a trial, Terrell was found guilty, and Justice Wyatt said in pronouncing sentence:

"Hereafter any automobile owner that will come here and swear that his machine has been damaged to the extent of 10 cents by reason of a chauffeur's using it without permission we will, if the evidence warrants it, find a conviction under this section and impose sentence. Let this be a warning to all chauffeurs who go on larks at their employer's expense."

Cape Cod Favors Motorists.

Cape Cod folks are manifesting a spirit of fairness toward motorists that is being reciprocated by a very general observance of the law on their part. The town of Hyannisport has adopted a new and so far successful way with the reckless and fast automobile tourists. First, the special officers of the town tell them when and where they can run fast, but warn them that if they are caught running at a reckless speed around curves or through the villages they will be arrested and taken to court. While hundreds have been stopped and warned not an arrest has been made since the adoption of this plan.

The town of Sandwich has increased the speed limit in the villages five miles, making it now 15 through the thickly settled parts and 25 on the outlying roads. This is said to be one of the fairest towns in the State to the automobilists, and they appreciate it, as there has not been an arrest made, and not a single automobilist has had to be warned against exceeding the rate of speed permitted.

Fatal Touring in Death Valley.

Two Californians, resident of San Francisco, who attempted to cross Death Valley, Arizona, in an automobile, failed miserably in the attempt, which cost the life of one of them and would have proved fatal to the other but for the timely arrival of a rescue party. The two men, F. D. Spaulding, an automobile dealer, and T. P. McCauley, undertook a short cut across the desert at Gila Bend, on the 31st ult., against the warnings of friends who well knew the perils of such a trip in a heavy motor car at this time of the year.

They did not arrive at Gila Bend when they were due, nor did they return to Yuma, and a squad of rescurers equipped for the purpose, set out upon the trail of the machine. They found it stalled in the sand, and lying beside it, in the full glare of the sun, the victims of the unwise attempt.

The rescue party promptly set about trying to restore life to the two men, and finally succeeded in reviving McCauley. Spaulding, however, died five hours later, just as the party was entering Yuma.

Farmers Set Double Traps.

Farmers in Mercer County, N. J., have determined to put a stop to the speeding of automobiles on the roads passing through Trenton. Already several arrests have been made and in all the cases fines have been imposed by Justice of the Peace Narr. The farmers say it is impossible for them to have their windows open because the speeding automobilists raise dust which enters their homes. Two weeks ago the farmers hired men to mark off a mile of road. The agents of an automobile company warned automobilists of the speed trap. The farmers let the automobile men watch the speed trap, and hired other men to go into another part of the county, though on the through road from Philadelphia to New York, measure off another mile and lay for automobilists.

How It all Happened.

Should the Edwards county farmer, who may have found the seat of a pair of trousers hanging to his barb wire fence, send it to this office, says an Edwards county paper, we will see that he receives pay for the row of corn knocked down by a Mitchell car. The mud hole in the road was deep, and the only way to get around it was to cut the barb wire fence and smash about 200 yards of corn, which would have been paid for on the spot had not the farmer appeared with a shotgun while swearing a blue streak. There was really nothing left for the boys in the car to do but to cut the fence a second time and skip; and in the skip one of them lost a quarter section of his trousers. But then they will pay for the corn when the proof is furnished.

CHAUFFEURS TAKE UP POLITICS

Their Club Pledged to Active Work in National Campaign—The Purposes They Aim to Serve.

"Having decided that "automobile drivers are most loyal supporters of that which is right, just and fair, the Board of Governors of the Professional Chauffeurs Club of America, in meeting assembled, resolved that "the organization take an active and energetic part in the coming campaign for the election of a president of the United States." It also was decided that "there is hardly any other collection of individuals that can do more to bring about the election of a President."

As a basis to work upon, the board of governors adopted an automobilists' political platform, which is subject to modifications. This platform is as follows:

1. Fair laws and their administration to all.
2. Abolish prosecutions for technical violations of law.
3. Prosecute and punish reckless automobile drivers.
4. Abolish vicious speed traps and prosecute persecutors of the motorists.
5. Legislate against graft.
6. Protect the hotels, garages, automobilists and the people against the enactment of unwise and destructive legislation.
7. Place impartial judges on the bench and just executive officers in the positions of public trust.
8. Remove biassed judges and unscrupulous officers.
9. Work for good roads.
10. Compel a sane use of the highways.

Registration Lively in California.

From the office of the Secretary of State of California the report is made that during the month of June 519 motor vehicles were registered. In the same month 159 licenses were issued to chauffeurs, 82 transfers of licenses were recorded, and 14 duplicates issued to dealers. The amount of money collected by the State automobile department for the month was $1,517.

Automobiles in Mining Camps.

Automobiles are extensively being used for the transportation of men and ore in the mining country of northern Wisconsin, Minnesota and upper Michigan. The cars are operated between the various range cities andperform an especially useful service in carrying supplies.

New Jersey Has Second Largest Club.

With 1,121 members on its rolls, the New Jersey Automobile and Motor Club now is the second largest club in America. The Automobile Club of America, of New York City, stands first.

"The A B C of Electricity." Price, 50c. The Motor World Publishing Co., 154 Nassau Street, New York City.

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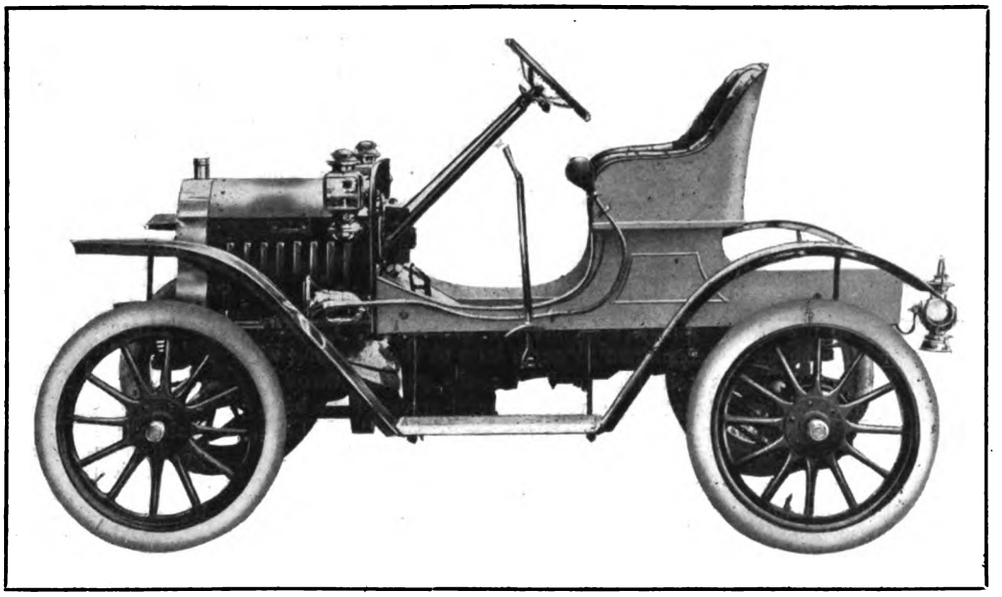
The Cars In the

BRUSH RUNABOUT EFFICIENCY RUN

had progressed up to Saturday morning as follows:

They have covered about 100 miles per day, giving numerous demonstrations in towns and cities passed through. and being received everywhere with the keenest interest and evidently great enthusiasm.

So far no mechanical troubles of any kind are reported. Casualties consist of one dog and one rooster. The running time is averaging from 17 to 22 miles per hour, gasolene consumption running 23 miles per gallon, and oil consumption running 110 miles per quart. As all motors were new and still at the start, the fuel and oil consumption would doubtless be cut down before the finish. Each car carries besides two passengers, baggage for two weeks, about sixty pounds of cuts and literature, oil, tools, tire chains, etc., making an extra load of about 175 lbs.



The Model B Runabout is a wonderful little car. It is not a copy of something else, nor a big car boiled down with the same number of parts only smaller, nor an appeal to vulgar fadism, but is built strongly and sanely to do its own work in the best possible way. For one or two passengers it does all the big cars do, barring speed above thirty miles an hour and at absolutely the minimum cost and the maximum convenience.

The Model B has refined and graceful lines, such as are seen on no other small car. Its running qualities are unapproached and unapproachable by any other, big or little. Its motor is as lively as a humming bird, but as persistent as a mule. Its transmission is perfectly quiet, self adjusting, and the most durable part of the car. Its clutches are positive and absolutely without jar.

You have heard numerous things said about the Brush Runabout both good and bad, from friends and supposed competitors. The only real valuable opinion is that of an owner. Ask any owner all about it. If you don't know one we will give you some names. Deliveries start this week. Orders are coming fast and we want yours as soon as possible.

This Run is to demonstrate the

MODEL B BRUSH RUNABOUT

On Pneumatic Tires, $550. **On Solid Tires, $500.** **500 pound Delivery Wagon, $600.**

WATCH IT

Brush Runabout Co., 1 Baltimore Ave., West Detroit, Mich., U.S.A.

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SWELL BACKERS OF "PIPE LINE"

American Millionaires with British Peers in Association to Cut Prices of American Accessories—Trade Menaced.

Makers of accessories who have a sale for their products in Great Britain, and bargain seeking automobilists who have a fondness for high society and a weakness for joining associations that promise cut prices, are bound to feel an interest in the "Automobile Co-operative Association of America," which describes itself with succinctness and alliterative turn as being " a combination of motorists to buy at greatly reduced cost everything from cars to cotter pins." While superficially it appears to be only for the benefit of Americans, it presents very unpleasant trade possibilities in connection with the sale of American automobile goods in England and on the Continent.

August Belmont is chairman of the advisory committee of the association, and other names almost equally famous are on the list, including James L. Breese, of Havre-de-Grace, Md.; Joseph H. Emery, of Lord & Taylor, New York; Gustave B. Fletcher, of Philadelphia, and more of the kind. By reason of the fact that the association is practically a branch of an English organization of the same character, which latter has been in operation for some time, an overwhelming list of British names and titles are also conspicuous on the prospectus, including an array of earls, lords, lieutenant-generals, right honorables, colonels, sirs, viscounts, bart.'s, K. C. B.'s, D. S. O.'s, M. Inst. C. E.'s, and the like that is perfectly thrilling.

Almost any plain ordinary American citizen who has $8 to spare can become associated in business with this international galaxy if he be so minded, because the organization has stock for sale—as many shares as anybody wants to purchase. The stock costs $5 a share and the annual dues are $3.

"On behalf of its members," the prospectus states, "the Association acts as purchasing agent for all kinds of cars and motor boats, and for component parts, accessories, tires, tools, apparel and supplies. Buying from the manufacturers its profits are applied in dividends to its members."

The danger to the American accessory maker in having his prices cut abroad is indicated by the next paragraph, which in continuance, says: "The Association is affiliated with the English Association of the same name and purpose, members of each having the privilege of the other. Offices are maintained in England and the principal Continental cities, where cars and supplies can be obtained at Association rates.

"This Association," the prospectus continues, "comprising as it will many thousand members, will constitute such a purchasing power as to command discounts beyond the reach of motorists through any other channel. In this manner chauffeurs' commissions will be entirely eliminated."

However indifferent the success of the Association may be in gaining an extensive membership in the United States, it will serve as an excellent "pipe line" for the English association in getting American goods at lower prices than the authorized agents on the other side now charge. The sale of American clocks, lamps, speedometers and similar accessories in London particularly, has grown to big proportions. If low trade prices are granted to the New York office, the goods will be slaughtered on the bargain counters at the immense cut-price establishment which the Association conducts at 1 Albemarle street, Piccadilly.

Warns Against Cut Rate League.

In an effort to protect its members from the wiles of those who seek to obtain patronage by representing themselves as being affiliated in a business way with the organization, the trustees of the New Jersey Automobile and Motor Club of Newark, N. J., have adopted measures which they believe will put an end to an evil which has devloped into a public nuisance. Throughout the State, and in fact the country, there has been a development of so-called leagues which claimed some sort of relationship with about every legitimate automobile organization in the United States.

In many cases the leagues are conducted by persons who purchase goods at the lowest possible figure, and by offering a small discount reap a harvest from the autoists, who are led to believe that the inducement is really worth their while and is offered through their membership with the automobile club, while as a matter of fact the circulars are mailed broadcast to every automobilist whose name is received through the State department of motor vehicles when the license is granted.

The New Jersey organization took official notice of the matter Monday night, when a resolution was passed declaring that it was the sense of the trustees that the members of the club will derive no benefit from any relations with certain private automobile leagues which are promoted for private profit.

Promoter Charged with Embezzlement.

Harland Norwood, promoter of the "Community of Automobile Interests," an organization to provide automobile accessories to consumers at favorable figures, was arrested on August 7 at Newark, on a warrant charging him with embezzlement. The charge was made by the Greene Motor Car Co., of Newark, and alleged that Norwood, while a salesman in their employ, had been forgetful about turning in receipts for sales. Norwood, who was released on bail, promises to explain everything satisfactorily.

BOOSTING THEIR BARGAIN COUNTER

The A. C. A. Drums up Trade by Circularizing Members—Alluring Offers of Cuts from Current Prices.

Having for a long time entertained itself with the gentle delusion that it has been "fathering" the automobile trade, the Automobile Club of America some months ago felt the itching to indulge in a little dabble in trade itself, and to that end opened an automobile supply store on the third floor of the club house. To stimulate sales a circular about the store has recently been sent to the members of the club by the "executive committee," proclaiming it as a "cut price" place and soliciting more business than the members have been giving it.

The club's supply store aims to give its customers "large discounts from current market prices on all supplies according to the circular sent out and it further asks all the members to make price runners of themselves by reporting the quotations made by other cut-price houses so that the club's store may readjust its list of prices to meet them.

A large stock of tires and all automobile accessories is to be kept on hand, and the club store holds itself in readiness not only to fill orders over the counter, but to take care of mail order customers as well. A copy of all the quotations given the chauffeurs will be mailed to their employers so that the latter may make "comparison with other quotations" or bills.

Lively competition faces the club's cut-price store in the number of other houses already seeking trade on this basis. Some of the latter have peculiar and unusual facilities for getting automobile supplies for almost nothing and sometimes employ curious methods, not to say questionable, methods of obtaining them.

Not all of the members of the club approve the idea of its going into the cut-price business. There are those who believe it is not quite the function of a club to set about merchandising and cutting prices in the field in which it affects to hold a social and sport relation. Furthermore the installation of a cut-price store in the club house building was made a purely "ex-executive" action, without a consultation as to the will or consent of the members as a whole. That men like President Gary, of the steel "trust," whose chief activities for some time have been devoted to keeping up the price of steel, should divert their time to establishing a cut-price supply house in the club's building, is made the subject to more or less comment.

Whether the outside cut-price houses will be able to run the club institution off its feet, despite the backing and efforts of the "executive committee" on its behalf, remains to be seen.

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MUST IMPROVE GARAGE RECORDS

Requirements of Massachusetts Law to be Enforced on Dealers—Joy Riding Chauffeurs to Lose Licenses.

Under the powers conferred by the present automobile law the Massachusetts Highway Commission purposes to check joy riding by chauffeurs and to hold dealers to account for imperfectly kept garage records. Chauffeurs proven to have taken out cars without permission of the owners will in every case lose their licenses. As to the dealers, the number allotted to each to be displayed on the cars his employes may operate on the roads is the means adopted by the State authorities for exercising the same check over a group of cars controlled by one man as is possible over a single car individually owned. It makes the dealer responsible to the State properly enough, and unless the dealer is ready to live up to the requirements of the law as to keeping a record, and thereby making it possible for the authorities to pick out the chauffeur who is the real offender in cases of abuse of these privileges, the Commission's only recourse will be to come down on the dealer himself.

It is an evident fact that the garage record book has been regarded more or less as a joke among the automobile fraternity. Yet certain cases recently before the commission have shown the book to be such an important factor in preventing accidents and road abuses that from now on the garage manager who fails to live up to the law and keep accurate tab on the men and cars for which he stands responsible will be taking a serious chance. It is not to be understood that anybody at the offices of the Commission has attempted to take a threatening attitude in the matter. Rather, it would be fairer to say that the commissioners seem to feel that when the dealers once appreciate the bearing of the record book on the subject of complaints and abuses they will be glad to co-operate in keeping the records as nearly accurate as possible, without any easy going lapses. Otherwise the logic of events will soon bring it about that a careless record book at the garage will mean a suspension of the dealer's license as a matter of course.

The chief point in the whole matter is that unless the garage record is kept with regularity and care, the dealer's number comes to be a cloak for the kind of road experiences that foster complaints and anti-moto sentiment among the public at large as well as before the commissioners.

Sheriff's Badges to Cure Speeditis.

Appointing automobilists to the office of deputy sheriff is the odd plan which has been adopted in Monmouth County, N. J., as a remedy for the propensity to crowd too many miles into the hour. Three men well known in Wall street are the first victims of this shrewd device and their fellow travelers on the Long Branch boats indulge in facetiousness at their expense.

Frank Savin and Monroe Rothschild, it appears have been among the most enthusiastic automobilists in the "Little Wall Stree" of Long Branch for several years. Both are good drivers and in days gone by have sent their machines at rapid clips down Ocean Boulevard. Incidentally considerable rivalry existed between the brokers as to who was the better machine driver. This rivalry caused Mr. Savin to make so many practice spins at such a rapid rate that they made him sheriff of the county. The residents, it is said, figured it out that the only way to make the broker drive slowly was to make him the sheriff. Mr. Savin, although proud of the honor, was distressed just a little because the title prevented him from honestly indulging in speeding. But the rivalry did not die.

Finally, unable to bear the strain any longer, Mr. Savin told Mr. Rothschild he would "go him" for a short trial anyway. The latter agreed and a date was set. The day before the event Mr. Rothschild was made a deputy sheriff at West End. Both were now officers of the law and any speeding was out of the question. Just who started this sheriff system of curing brokers with a predilection for speeding no one has been able to figure out. Robert Guggenheim, son of Daniel Guggenheim, is another who has been made a deputy sheriff.

Automobile "Prairie Schooner" En Route.

With a sort of prairie schooner body, equipped with a gas stove, ice box, cooking utensils, fishing tackle, guns and such other paraphernalia as conduce to human comfort, a White steamer belonging in Baltimore, Md., is following Greeley's advice and going west in the same rambling fashion as did the vehicles of the early settlers. The "schooner" is inhabited by George Snavely, of Baltimore, and his wife, who are vacationing overland. They left Baltimore three weeks ago and have reached Kansas City, whence they will motor to Abilene, Kan., then to Denver and Yellowstone Park. On the return the route will be through Minneapolis and Chicago, the plan being to reach Baltimore early in October.

White Issues Route Book No. 7.

White Route Book No. 7, just issued, contains detailed directions for touring between Chicago and Buffalo. With previous issues of this valuable series which the White Company has undertaken, complete and authentic information concerning the roads between New York and Chicago are now furnished for the first time. The new route book also contains road directions from Harrisburg to Cleveland, via Pittsburg, and from Pittsburg to Washington, Pa., where it connects with the routes described in Book No. 6.

EXTRA PERILOUS GRADE CROSSINGS

Danger Spots on Roads in Westchester County, Long Island and Staten Island —Warning List for Motorists.

Calling attention to grade crossings, which they designate as "extra hazardous," the Automobile Club of America of New York, has issued notices to its members giving the location of the most dangerous unprotected railroad crossings in Westchester county, New Jersey, Long Island and Staten Island. While the list is not intended to cover all the grade crossings in the vicinity of New York City, those not mentioned are so arranged that motorists have an unobstructed view of the track and by the use of ordinary caution can avoid accident.

Following is the list of the points where extra care is necessary:

Westchester County.

Just south of Briarcliff village, on the Putnam branch of the New York Central.

On Lake Mahopac road, ust south of Kitchawan, on the New York Central.

At Hawthorne, on the Harlem branch of the New York Central.

At Mill Plains, on the New York, New Haven & Hartford.

Two crossings between Mill Plains and Danbury, on the same railroad.

Long Island.

At Glenhead, on the Long Island Railroad. (A man was killed there a few weeks ago.)

At Westbury. (The automobilist, Fournier, and three men, one an official of the Long Island Railroad, were injured there a few weeks ago.)

At Rockville Centre.

Two crossings near Oakdale.

At Center Moriches. (A serious accident occurred there about six months ago.)

Between Jericho and Woodbury, on the Long Island Railroad.

At Sayville, near the railroad station, where the tracks cross the Cross Island Roadway.

New Jersey.

Two crossings at Bogota, on the New York, Susquehanna & Western and the West Shore railroads. (At this crossing Donald Holmes, a Paterson lawyer, was killed last Sunday. Shaw, the chauffeur, was fatally injured, dying on Tuesday. Two others badly hurt.)

At Leonia, on the Northern Railroad of New Jersey.

Near Closter, on the Northern Railroad of New Jersey.

Between Mattawan and Freehold, at Wickatunk, on the Central Railroad of New Jersey.

Between Freehold and Farmingdale, on the Pennsylvania Railroad.

Between Farmingdale and Lakewood, on the Central Railroad of New Jersey.

At Keyport, on the New York & Long Branch Railroad.

Staten Island.

Near Huguenot, on the Staten Island Railroad.

Near Giffords, on the Staten Island Railroad.

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JERSEY'S GOOD ROADS MOVEMENT

Definite Plans for Convention at Atlantic City—Governor Fort and Leading Experts on List of Speakers.

At a recent meeting of the Associated Automobile Clubs of New Jersey, definite plans were adopted for a good roads convention to be held in Atlantic City on Friday and Saturday, September 25th and 26th. Efforts to interest the State Grangers in the affair have been successful, and the Associated Clubs propose to get in touch with every automobile club in the State and induce the different organizations to send delegates so that every locality will be represented. Aside from the regular organizations, the farmers, motorcyclists, and all others who are interested in the good roads movement, will be invited, and the road problem thoroughly discussed.

Not only have all the motor organizations in the State, including prominent members of the dealers' association, approved the plan, but State officials as well have set their seal of acceptance upon it. Governor J. Franklin Fort will make the opening address at the convention. Other speakers will be government experts from the Department of Agriculture at Washington and road experts from this and other States.

Individual members of the State Grange have showed a marked interest in the convention and an effort will be made to get the official support of the farmers' organization. Little trouble is anticipated along this line, for the reason that the convention is called as much to consider the farmers' interest as those of the other users of the highways, and the head of the National Grange promised the support of his organization to the good roads movement at the National Good Roads convention held in Buffalo recently.

The Atlantic City gathering will follow closely the lines of the recent Buffalo convention, with the exception that it will be local, and not national, in character, and so will be better equipped to take up the problems peculiar to New Jersey and its hundreds of miles of stone roads, that are famous all over the country and are constantly attracting an immense automobile traffic from other parts of the country.

New Attack on Anti-Trap Pickets.

"Doing unnecessary work on the Lord's Day," was the singular charge against a young man named Howard Hatch, who was arrested for standing in the vicinity of a "trap" in Norwood, Mass., and handing to automobilists a card warning them to keep within the limit of speed. The case was heard by Judge Hutchinson and the young man was convicted, but the case was placed on file. Judge Hutchinson, before finding the young man guilty, suggested that the Automobile Association, instead of having a man stand near the traps, should station one at either end of the town on the main road, and there hand out the cards. Chief Sackett also made the suggestion that a large sign be placed at either end of the town warning automobilists in regard to the speed limit. The case was put on file, with the hope that the town and the Automobile Association will agree on some plan so that they can work together in the future.

Automobile Emergency Repair Wagons.

Automobiles are to become a part of the equipment of the Brooklyn Rapid Transit, replacing the horse drawn emergency repair trucks that are a familiar sight to regular travelers over the many lines of street cars in the big Long Island borough of New York City. Demands for the emergency service have been hard on the horses which frequently have scarcely time to return from one long journey before there is a call from another direction. The possibilities of an automobile service appeared so inviting that it was determined to equip an antomobile truck of high power with the body and tower of one of the horse-drawn repair wagons and the results were satisfactory. The next step was to obtain a specially constructed gasolene vehicle of high speed and it now is in service. It carries an extension tower which enables the crew to work in ease and with safety on the overhead wires. In the body of the wagon, are the tools, repair kits and materials ready for instant use. Not only is it more rapidly and readily driven through the streets, but it is ready to answer with unflagging promptness any number of calls made upon it. The substitution of similar vehicles for the old style equipment now appears to be simply a question of time. Such a machine has been in use in England for some little time, and is reported as having given good service.

Atlantic City Forbids Warning Signs.

Warning signs placed by the Atlantic City Automobile Club along the roads in that vicinity are to be removed by order of the Board of Freeholders. The meeting, held on Wednesday, 5th inst., was marked by excitement. The signs to which objection is made read "Slow to legal limit; police trap." Mr. Irving, a freeholder who represents the district in which John Carver, the Judge who last month collected $400 in fines from those who ran through the village faster than 20 miles an hour, is located, demanded that the signs be torn down.

"As soon as they pass these warnings, he said, "they drive recklessly and dangerously, and the signs are an outrage upon justice. It looks to me as though the club is not in sympathy with having the speed law obeyed, but is trying to save the automobilists from being fined for their lawbreaking. I believe in Justice Carver's rigid enforcement of the speed regulation."

TEST FOR ANTI-SMOKE ORDINANCE

Cab Company Assails Constitutionality of Park Board's Law—Appeal from Judgment Against a Chauffeur.

In order to test the constitutionality of the new anti-smoke ordinance of the New York City park board, William Scully, a chauffeur employed by the New York Taxicab Co., was arraigned before Magistrate Moss in the Yorkville police court on the 5th inst., charged with permitting smoke to issue from the exhaust vent of his machine He was fined $2. Louis D. Mooney, counsel for the company, said he would pay the fine under protest, and would appeal the case at once to test the constitutionality of the ordinance. Six other chauffeurs of the company who had been arrested were discharged.

At the invitation of Magistrate Moss Assistant Corporation Counsel George Nickerson and Mr. Mooney were present to listen to the testimony against the chauffeurs, and it was decided to make a test case, Scully being selected as the defendant. It was ordered that copies of the minutes of the hearing be furnished Messrs. Nickerson and Mooney.

Philadelphia Persists in Its Shakedown.

Nearly 3,000 owners of automobiles in Philadelphia have all season long operated machines with State permits only, regardless of the fact that an additional city license is required, and in order to put a stop to this evasion of the law the Department of Public Safety will in the near future issue a circular letter calling for attention to the fact that a city license is just as necessary as a State license. The cost of a city license is $2 per year for the original license and $1 for each year in the future. Owners and operators of automobiles have all along contended that a State license is sufficient, but the local authorities will in the future enforce the ordinance.

Jersey Justice Pursues a Phantom Car.

Frederick C. Eberlin, manager of the Stock Exchange power plant, received the following official letter on Saturday last, 8th inst.:

Ancora, Camden,
"8—5—08.

"Dear Sir—While speeding your machine 3530 on July 11, 08, on the County Road between Berlin and Hammonton, my Officer found You exceeding the Speed Limit; machine running at the Rate of 63 seconds to ½ Mile; therefore accountable to a fine of $25 and $5 cost. Not wishing to take Lawfull action, I await your reply. Yours truly, C. WALDROGEL, J. P., Ancora."

Not having owned or driven a machine for four years, Mr. Eberlin naturally believes that he can prove a perfect alibi and C. Waldrogel, J. P., undertakes to enforce the Jersey law on him.

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EXHAUST GAS AS A GERMICIDE

London Physician Says the Automobile Smell Combats Disease—Chicago Doctors Ridicule the Assertion.

Right on top of all the fuss about obnoxious exhaust from automobiles, which is causing numerous arrests in New York, comes the information of a certain London scientist claiming that exploded gases coming from the muffler kill germs and thus greatly lessen the possibility of disease contagion. American scientists and physicians, however, do not agree with their English colleague, asserting that no such thing occurs, in spite of the fact that the death-rate in London is less at present than it has been in 50 years. From which, it is obviously to be doubted if we will ever disinfect our houses or fumigate them after sickness, by attaching a hose to the muffler of our car and permitting the engine to pump smoke and lifeless gases into homes. Dr. J. F. Biehn and Health Commissioner W. A. Evans, declare that the anonymous London physician who says "the burnt carbonized matter is a splendid antiseptic and the creosote vapors that come from the motor are in reality a health tonic and bracer," had reason to seclude his name.

"All the creosote deposits from all the automobiles in Chicago," said Dr. Biehn, "wouldn't kill the germs on a square inch of city pavement. If the machine is a good one there is nothing left from the combustion of the gasolene except carbonic acid gas and water. In any event there could be no great amount of substances of an antiseptic nature. The Londoner was dreaming."

Dr. Evans' position was that the gases had absolutely no purifying effect upon the atmosphere.

"Germs are hardy things, as anybody knows," he explained. " A germ can stand anything that a man can, and I haven't heard that automobiles had caused any deaths recently in that manner. When one wants to fumigate a room the fumes of the sulphur or formalin must be so strong that a man can't stand them, or the germs 'live happily ever after.'

"I wouldn't say that the automobile gases are especially harmful. I should call them merely objectionable."

Inexpensiveness of Swiss Motoring.

Though Switzerland has commonly been regarded as a country where travelers are looked upon by inn keepers and the law makers as legitimate prey, the amount of $2.59 per day per person, the cost recorded in the case of a recent experience is by no means a sum to worry over. According to Dr. A. H. Heaton, of the Missouri Automobile Club, this amount represents his average expenditures for a trip which he now is taking through European countries. In his itemized accounts of one week in Switzerland, Dr. Heaton records hotel bills at $22.10; gasolene, $8.90; cleaning, garage, laundry and sundries, $5.30, making a total for two people of $36.30, or $18.15 for one.

For 13 consecutive days, June 14th to 26th, and including the cost of shipping the car across the Channel on its return to England, the total for two persons was $86.71, or $43.35½ per person, making a daily average of $3.25 per person—the very necessary item of tips, included. Dr. Heaton's original estimate of the daily cost per person was $4.68, the conservatism of which is emphasized by the statement that his average has not reached $4 per day at any time during the trip.

Teamsters Want Union with Chauffeurs.

Believing that the perpetuity of their organization may in time depend upon affiliation with the drivers of motor cars, the United Teamsters of America are seeking to have the Chauffeurs Protective Association of America join with them in the formation of a mutual alliance. This fact developed through discussions carried on at the national convention of the Teamsters which was held in Chicago on August 3d. The delegates to the convention represented 75,000 teamsters, located in all parts of the United States, and prominent in this gathering was Albert Oliver, who appeared as representative of the Chauffeurs Protective Association. Oliver is the first representative of an organized chauffeurs' union to be seated in a teamsters' convention.

Mount Wachusett Open to Automobiles.

By grace of the State reservation commission of Massachusetts, automobiles now may go to the summit of Mount Wachusett, provided the trip is made between the hours of 12 and 2 p. m. or 5 and 7 p. m. Automobile parties desiring to remain on the summit over night can obtain special permits to descend in the forenoon. Mount Wachusett is one of the most conspicuous protuberances on the geographical face of the Staee, not because of its height but because of its lone position. Because of this fact and the comparative ease with which it can be ascended it is a delightful spot for tourists to visit, affording views as varied and beautiful as they are far extending. It is a State reservation.

Pittsburg Frowns on "Joy Riding."

Automobile owners of Pittsburg, Pa., are going to try to take concerted action to prevent "joy riding," the first instance of mutual interest being shown in the Allegheny county court last Thursday when Harry Curtis, a chauffeur, was put on trial charged with trespass, it being alleged that he took the automobile of his employer and gathering a party went out and got drunk and ran the automobile into a ditch. Several automobile owners have agreed to divide the expense of this case.

FARMERS DEMAND BETTER ROADS

Rural Free Delivery and the Automobile Awaken Indiana Agriculturists—Pushing Highway Improvement.

That the development of the rural free delivery is going to play an important part in the good roads movement is shown by the activity of the government in response to the insistent demands of Indiana farmers for better roads in that State.

Before the advent of rural free delivery of mail the farmer was more or less indifferent about the condition of the roads, but in the last few years he has been buying automobiles and has grown accustomed to the luxury of having his mail delivered almost to his front door, and now he demands that better facilities be afforded him for the use of his motor car and to insure a consistent following of the mail schedule.

In response to this situation, the Post Office Department of the government is doing more in Indiana to extend good roads work than is being done through the combined efforts of all the good roads associations. This year's estimates of $8,000,000 for the building of roads in the State probably will be insufficient as the amount of work in hand will require much more than that sum to insure its completion. Recently the government, through its postal authorities, has been vigorously demanding that the roads shall be improved still more.

In the vicinity of Charlestown the entire rural mail service threatens to be discontinued, because of bad roads, and farmers are now projecting the building of 41 new roads. In other parts of the State officials and business men are hurrying through road improvements to save rural routes. Madison county is preparing to build 21 new roads at a cost of $250,000. The South Bend Business Men's Association is making special efforts in the direction of having good roads built.

Massachusetts to Issue Special Licenses.

Restricted licenses for non-resident operators are to be issued by the Massachusetts Highway Commission for the benefit of those who wish to run their cars into the State without being held up. Many such operators have been of the sort fully competent to take out a license, who have merely needed the right to operate until they could get their cars to some point where they could meet the commission's examiner and satisfy him of their fitness. The commission, under the law allowing it to place restrictions on licenses, has now decided to issue certain licenses in response to application by mail, the license to become void unless the operator passes a Massachusetts examiner before the end of the stated number of days, as set forth in the preliminary certificate.

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NORWAY HAS FEW AUTOMOBILES

American Consul Suggests that Present Limited Demand Might be Increased—One Native Factory Operating.

Norway probably would scarcely be regarded as a likely field for automobile exploitation. Nevertheless Vice-Consul-General Michael Alger, of Christiania, explains that a certain limited demand already has been built up, and indicates that it may be extended under proper conditions, which may follow later on. Of the 87 machines in present use in the country, the majority are to be found at Christiania—the only place where registrations may be recorded. These registrations come under the jurisdiction of the police department—29 of the present total having been received during the year 1907.

"Most of these are used for purposes of pleasure, but a few delivery cars are in use," he says. "All of these automobiles have been imported; about 25 are of American origin; the others are of French, English, and German manufacture. A few large machines of 35 to 40 horsepower have been imported, but most of the automobiles in Norway are of the smaller kind.

"There is only one automobile factory in Norway, and its output so far has been limited to two small cars. The competition offered by domestic manufacturers is therefore of no consequence. The Norwegian import duty on motor cars is 12 per cent. ad valorem.

"The kind of automobiles most likely to find a market here will be those ranging in price from $900 to $1,500, about 20 horsepower and well equipped to climb steep grades. Larger machines at higher prices will find but few buyers, inasmuch as there is only a small number of persons in Norway who can afford the luxury of expensive automobiles.

"The intended utilization of motor cars for conveying passengers as well as goods in several country districts, especially along the most frequented tourist routes, offers a field for sale of automobiles in Norway. Such traffic is now carried on by horse vehicles. In the district of Osterdalen, the principal valley of the country, several such automobile routes are now under contemplation. Likewise in the Trondhjem district, between the town of Stenkjar and Rodhammer, and in the Telemarken district, between Notodden and Sauland, automobile routes are to be opened.

"Automobiles intended for the Norwegian market should be equipped with double tires—that is, with inner air tube and outer casing, which latter should always be provided with an outside metal cover for protection against the sharp crushed stone used in the paving of many of the roads; otherwise punctures will occur too frequently.

"All chauffeurs must demonstrate their ability before they can obtain a license from the authorities to drive a car. Of such qualified drivers there are 121, 47 of whom were registered in 1907.

"The strict rules and regulations laid down by the authorities for driving automobiles on the Norwegian highways continue to be a serious drawback to the development of the use of motor cars in this country. Every district has its special rules in regard to such matters; thus a new permit has to be obtained for each one to be traversed. In some districts automobile driving has been entirely prohibited; in other places only certain roads within the same district may be used, and then on certain days and at specified hours only. The explanation given is that the roads are too narrow for the safe passage of horse vehicles and motor cars at the same time. It should be remembered that some of the Norwegian public roads have a width of about 7½ feet only, and that they have many sharp curves.

"New and more liberal rules, uniform for the whole country, as far as practicable, in regard to this matter, are now under preparation by a committee specially appointed for the purpose; but it will still take a year or more before any new enactment will come into force, and until then the automobile trade must reckon with the rules of the present.

"American automobiles have been well received here, and their many good points have been duly appreciated, but it seems that they range too high in price compared with English makes. Thus a British firm offers a 30 horsepower, 6-cylinder machine for $2,626, while an American 20 to 25 horsepower motor car costs $2,814. The terms of payment are always in favor of the European manufacturer, who generally gives long credit to solid purchasers, while the American invariably demands cash on delivery, or at least against shipping documents here."

Passenger Lines for Ohio Towns.

Warren, Ohio, and Cortland, in the same State, are to be connected by an automobile passenger line. The Cortland Transfer Co. has been incorporated and very shortly will operate a passenger, freight, express and possibly mail service between the two places. There is but one train each day between these towns and not only do residents experience considerable difficulty in getting to and from work, but the mail service is very poor.

Orders Automobile Fire Engines.

Lansing, Mich., has ordered an automobile fire engine. The machine is to be of sixty horsepower and designed to carry six men and equipment. Specifications call for a pumping capacity of 600 gallons per minute at a pressure of 180 pounds per square inch. The price of the machine will be $6,000.

OPERATORS MUST FILE PHOTOS

Roundabout Process of Obtaining Automobile Licenses in Mexico—Extortion in the Form of Fees and Taxes.

Getting an automobile license in Mexico is a matter of circumlocution. At the outset the owner of a machine must make application to the Governor of the Federal District for examination as to his capability for operating it. The application, written on regular official paper, having a wide margin on the left hand side, must give the applicant's name and address together with a description and the number of the machine. The application is presented in person, between the hours of 9 and 11 a. m., to Senor Pedro Buch, at 2a Ribera Santa Maria, No. 1128, and if satisfied as to the capability of the applicant, Mr. Buch will endorse the paper favorably, assigning thereon the number allotted to the machine.

The paper then must be presented to Seccion la del Go. del Do. between the hours of 11.30 a. m. and 1 p. m., or 4.30 and 6 p. m., together with two photos of the applicant each measuring 5x4 centimeters. Two document stamps, one for 50 cents and another for 10 cents, must be presented at the same time for attaching to the "Certificate of Aptitud" and "Permit to use automobile" respectively.

These certificates are then granted, together with the numbered plate for which a charge of $3 is made. The plate must be taken to the office of Mr. Buch so that it may be attached to the automobile. As a rule two days are required from the time application is first made to the final placing of the number.

In the same building at which the certificates above mentioned are granted, a bimonthly tax, at the rate of $2 per seat, per month, must be paid. Thus the tax for an automobile seating five people would be $20 every two months. The licensed owner receives a voucher, also written on official paper, giving the date of the granting of his certificate of aptitude, the number of such certificate and the address at which the automobile is kept. In renewing the payment of his tax he must show the receipt issued for the last previous payment.

Meriden Wants a Police Patrol Wagon.

Meriden, Conn., joins the cities adding automobile equipment to the facilities of municipal departments. Chief Bowen, of the Police Department, has been instructed to inquire about prices of police patrol vehicles and prepare an estimate to be submitted by the police board to the city council with the estimates for next year's appropriation. The police headquarters already is provided with a station for an automobile, that having been included in the plans for the building now occupied.

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The Week's Patents.

888,737. Automobile Running Gear. Charles T. Pratt, Frankfort, N. Y. Filed Jan. 24, 1907. Serial No. 353,890.

1. The combination in an automobile running gear of a pair of forward steerable wheels secured by pivotal joints to the ends of an axle and carrying the forward end, a truck consisting of an intermediate pair of steerable wheels secured by pivotal joints on the ends of an intermediate axle and a pair of non-steerable wheels secured to the ends of the rear axle and half elliptical springs extending longitudinally of the running gear on each side and secured to the intermediate and rear axle at their respective ends and means for supporting the rear of the body from said truck engaging on the middle portion of said springs respectively, substantially as set forth.

888,794. Starting Means for Gas Engines. David Ferguson, Buffalo, N. Y., assignor to George N. Pierce Company, Buffalo, N. Y. Filed May 8, 1906. Serial No. 315,787.

1. The combination with an engine having a relief valve, of a rotatable operating device for said relief valve which is driven by the engine and is normally in an inoperative relation to said relief valve, means for starting the engine, and a device which is connected to said starting means and is moved thereby transversely with respect to said operating device for moving the same axially into operative relation to said relief valve, substantially as set forth.

888,823. Vehicle Tire. Harry A. Knox, Springfield, Mass. Filed Dec. 13, 1905. Serial No. 291,623.

1. In a vehicle wheel, the combination with the rim thereof, a channel iron secured thereto, a series of springs extending transversely of said channel iron, said springs being so placed as to form a space between one spring and the next, and a series of holes through the flanges of said channel iron and located between said springs, and means for securing said springs to the channel iron.

890,083. Ratchet Coupling. Thomas W. Morgan, Waterloo, Iowa, assignor to Wilbur W. Marsh, Waterloo, Iowa. Filed May 11, 1907. Serial No. 373,183.

In combination, a shaft having a toothed outer race and having an outwardly projecting spindle, a band wheel rotatably seated on said spindle and provided with a bearing hole on its inner side, the outer side of said band wheel having a hub provided on its outer face with teeth, a compression spring in said bearing hole, a slidable pin in said bearing hole upon said spring, said pin adapted to engage a tooth on the outer face of said shaft when said band wheel is rotated in one direction, and be disengaged therefrom when rotated in the reverse direction, a crank having a hub rotatably seated on said spindle and such hub having a bearing hole in its inner face, a compression spring seated in said bearing hole and a slidable pin seated in said hole upon said spring, said pin adapted to engage a tooth on said band wheel hub when the crank is rotated in one direction and to disengage therefrom when the crank's rotation is arrested.

890,099. Carburetter. Henry Richardson, Waltham, Mass. Filed March 16, 1907. Serial No. 362,719.

1. In a carburetter the combination of an automatically closing valve and an elastically mounted adjustable stop therefor, limiting the opening of the valve, said stop being at a distance from the closed position and engaging the valve only when the valve is open.

890,107. Power Transmission Mechanism. Bennett Van Decar, Syracuse, N. Y. Filed June 25, 1906. Serial No. 323,290.

1. In a power transmitting mechanism, an epicyclic train having two separately revoluble planetary wheels traveling in different concentric deferents, one deriving rotary motion from the other.

890,247. Igniting Mechanism for Internal Combustion Engines. Clarence A. Myers, Frederick W. Haas, Jr., and Alvah A.



DOW TUBES Are the Most Economical

(The Best Tubes Ever Manufactured)

ONE YEAR'S CONSTANT SERVICE IN THE BOSTON FIRE DEPARTMENT

Dow Tire Co., New York, N. Y. Headquarters Fire Department, City of Boston, Bristol Street, Boston, July 20, 1908.

Gentlemen—Having used the Dow Non-Deflation Tubes since August 19, 1907, on the automobile used by Chief Mullen of this city fire department in his response to alarms of fire, I feel that, in return for the excellent results received from these tubes, I ought to inform you of same. Several persons have inquired of me as to their merits, and I have always spoken in the highest terms of them, but never felt that I could write you confirming my statements until such time as they had been in use for about a year.

We have given them all kinds of tests, and will truthfully say that they have withstood all punctures, and with the exception of "blowouts," which are liable to occur with any type of inner tube, they have given excellent satisfaction.

Trusting this letter may be of benefit to you, I remain, Yours very truly, (Signed) JOSEPH A. WEBBER, Lieut., Aide to Chief.

ALL LIVE DEALERS SELL DOW NON-DEFLATION TUBES

Dow Tire Company, 2000 Broadway, New York

889 Boylston Street, Boston 506-8 N. Broad Street, Philadelphia

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Myers, Chicago, Ill. Filed March 7, 1908. Serial No. 419,794.

1. In a sparking apparatus for internal combustion engines, the combination with a plug having a threaded body, of electrode shafts journaled in said body to have oscillatory and rotary movements, rotary and oscillatory electrodes carried by said shafts, a driving connection for rotating one of said shafts, a spring carried by the outer end of the oscillatory shaft for holding the electrode advanced with a yielding pressure, a cap inclosing the outer end of the plug, and a packing gland through which the rotary shaft projects from the cap, substantially as described.

890,362. Tire Protecting Deviee. Leonard H. Kinnard, Harrisburg, Pa., assignor of one-half to Rollin S. Chamberlin, Harrisburg, Pa. Filed Nov. 14, 1904. Serial No. 232,554. Renewed July 6, 1907. Serial No. 382,473.

1. A tire protecting device comprising a stiff annular shield whose internal diameter at each edge is less than the external diameter of the tire inflated, and which normally makes contact along its edges with both sides of the tire and between its edges with the outermost portion of the tire, and whose internal surface recedes from the tire on each side of the innermost portion of the shield, the stiff material of the shield increasing in thicknes from the edges to the outermost portion of the shield.

890,473. Vehicle Steering Device. Edward J. Vraalstad, Buffalo, N. Y. Filed April 19, 1907. Serial No. 369,081.

1. In a steering gear for vehicles, the combination with a steering rod, and a duplex male screw thread thereon, of two interiorly threaded nuts, one for each thread, one nut being telescoped by an extension of the other nut, and a swinging member by said nuts.

890,482. Circuit Closer and Breaker. Alexander Winton, Cleveland, Ohio. Filed Sept. 15, 1904, Serial No. 224,584. Renewed March 12, 1908. Serial No. 420,695.

1. An explosive engine ignition system including an annular non-conducting contact running surface, an electrical contact depressed therein and flush therewith, the non-conducting running surface cut away at the side of the contact for the purpose described, and a roller contact spring held against and rolling on said running surface, whereby the roller contact travels smoothly across said cut away portion.

890,494. Carburetter. Orra E. Byron, San Francisco, Cal. Filed Aug. 13, 1907. Serial No. 388,301.

1. In a carburetter, the combination of a member provided with ports through which air can pass, and a valve member provided with portions for successively uncovering said ports so as to permit the passage therethrough of varying quantities of air, and a vacuum controlled diaphragm connected with said valve member for actuating the same.

890.532. Explosive Engine. Alfred P. Schmucker, Denver, Colo. Filed Jan. 14, 1905. Serial No. 241,119.

1. In an explosive engine, the combination of a common crank chamber, a charge inlet therefor, a number of cylinders connected therewith, each cylinder having an auxiliary chamber provided with two ports communicating with the cylinder, one port being at the inner extremity of the cylinder and the other in position to be uncovered when the piston is at its inward limit of movement, for the escape of the explosive mixture into the outer extremity of the cylinder, the said mixture having been compressed in the auxiliary chamber during the inward movement of the piston.

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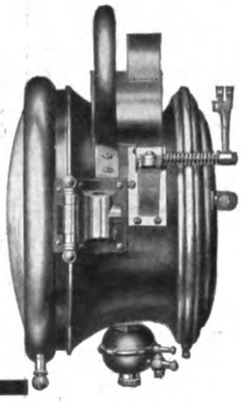
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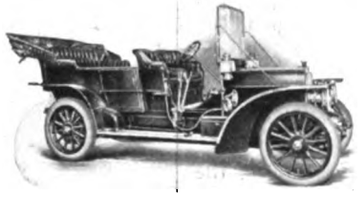
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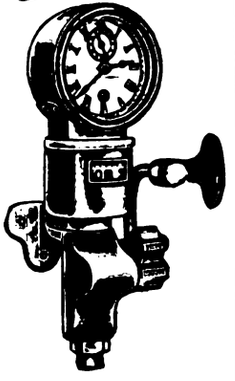
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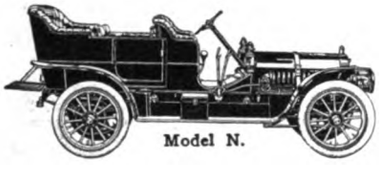
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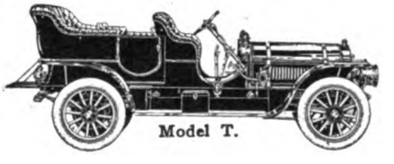
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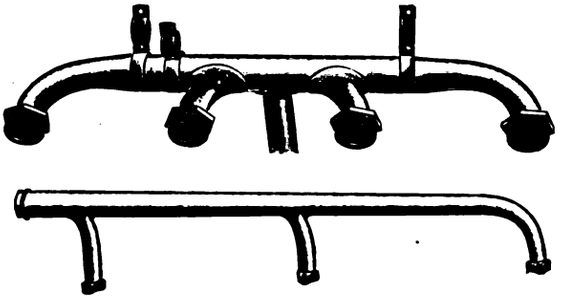
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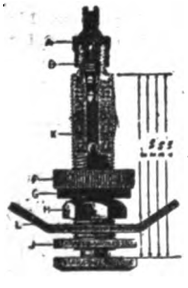
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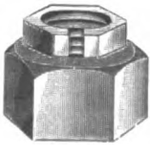
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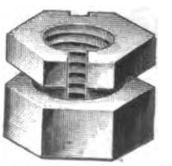
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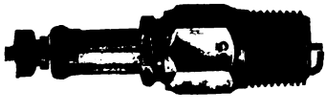
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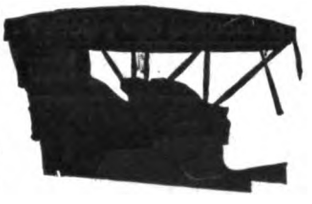
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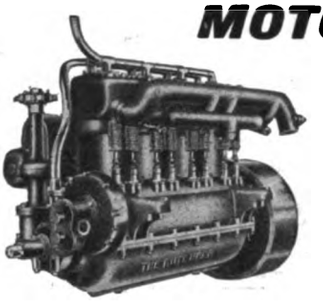
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MOTOR MAKERS



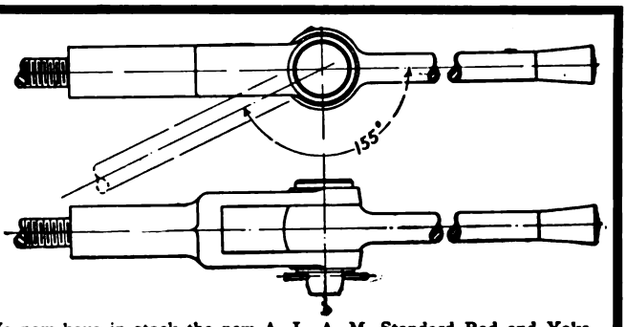
Indeed we are. We are still making motors for some of the most successful cars upon the market. Quality before price and both right.
Model "W" 1909
4 x 4, 25 h. p.
This motor is fully equipped with self contained oiling system, Magneto attachment, Fan and Carburetor. The same high grade material and workmanship that distinguishes our manufactured products will be found in this motor.
Prices reasonable. Write for catalog and full information.

THE WESTERN MOTOR CO., Logansport, Ind.
Manufacturers of "Rutenber" Motors, "Rutenber" Carburetors, and Supplies. Light Soft Gray Iron, Brass and Aluminum Castings.

ALUMALOYD SHEETS

For Automobile Bodies, Dashes, Guards, Bonnets, Battery Boxes, Drip Pans, Mufflers, Etc.
STRONG—DURABLE
SCALELESS—RUSTLESS
SMOOTH—PAINT ADHERES FIRMLY
A Metal That's A Time and Money Saver
THE STARK ROLLING MILL COMPANY, CANTON, OHIO

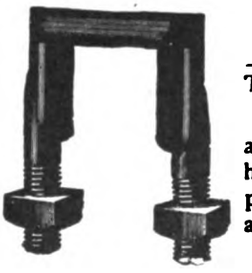
A. L. A. M.



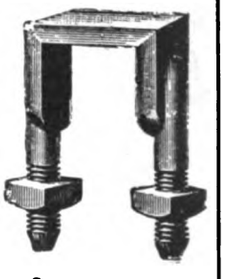
We now have in stock the new A. L. A. M. Standard Rod and Yoke Ends, both the adjustable and plain patterns, either blanks or milled. Send for new circular with full particulars.
THE BILLINGS & SPENCER CO., Hartford, Conn.

"RAJAH" SPARK PLUGS
IGNITION ABSOLUTELY SURE
RAJAH AUTO SUPPLY COMPANY
BLOOMFIELD, NEW JERSEY, U. S. A.
(Watsessing Station, D., L. & W. R. R.)

FORGINGS for the AUTOMOBILE TRADE

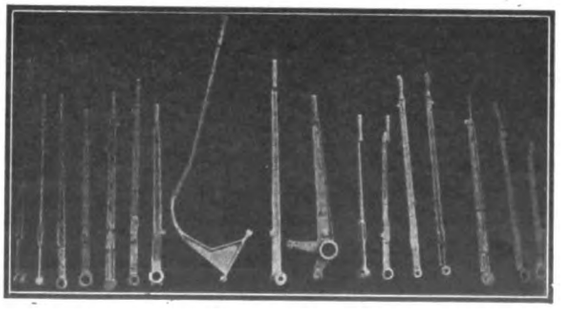


Satisfaction Guaranteed
Thousands of our Spring Clips are now in use, having been supplied to the leading automobile manufacturers.



Have you secured our prices?
THE M. SEWARD SONS COMPANY, New Haven, Conn.

PARSONS' MANGANESE BRONZE LEVER CASTINGS



Sole Makers
THE WILLIAM CRAMP & SONS SHIP & ENGINE BUILDING COMPANY, - Philadelphia, Penna.



In Every State
of the Union the
SPLITDORF Common Sense Plug
is largely used by motorists with complete satisfaction.

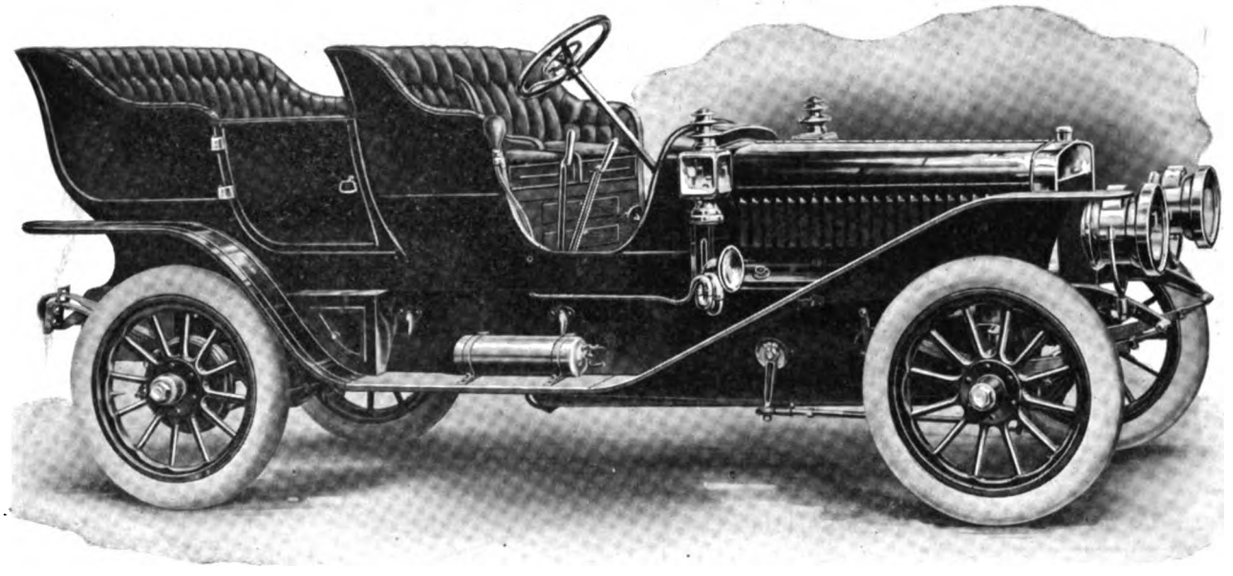
Of the many thousands sold by us not one has ever been returned as defective. Don't take a substitute.

C. F. SPLITDORF, Walton Ave. & 138th St., Branch, 1679 Broadway **NEW YORK**

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WINTON SIX

Goes the Route Like Coasting Down Hill



This 48.6 horsepower, five-passenger Winton Six at $3000 represents the most profitable investment offered to you by motor car makers—

BECAUSE

—it gives more power than any other car at anything like the price.

—it has a six-cylinder motor—the accepted high-grade type. If you have never ridden behind a real six-cylinder motor, you have the pleasantest surprise of your automobile experience awaiting you. Try the Winton Six and observe its superiority is quietness, smooth-running, flexibility (which means any speed you want on high gear), hill-climbing, comfort, and all-around enjoyment.

—it has a mechanically-infallible self-starter, that eliminates cranking.

—its upkeep expense is the lowest of first-class cars. Proved records of 65,687.4 miles (more than twice around the world) show upkeep expense of $1 for each 4343 miles.

—it is the same car in every mechanical feature that we made this last season and is therefore a proved car in every detail—a car without an experimental feature—no skimping in weight, quality of materials or character of workmanship.

For great power and seven-passenger body, see the 60 horsepower Winton Six, with four-speed transmission, at $4500.

Own a Winton Six and you own the best there is.

Write to-day for literature: 1—Winton Six catalog; throws new light on Sixes. 2—"One Dollar Upkeep for 4,343 Miles" booklet; a record of sworn testimony, not hearsay. 3—"Another $2,500 for Ten Good Chauffeurs" booklet; details a plan to benefit owners.

THE WINTON MOTOR CARRIAGE CO., *Member A. L. A. M.* Cleveland, O., U. S. A.

Winton Branch Houses in New York, Chicago, Philadelphia, Boston, Baltimore, Pittsburg, Detroit, Minneapolis, Seattle and San Francisco.

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ARE YOU TIRE-TIRED—in the sense that you are weary of buying your tires in the grab-bag, hit-or-miss sort of fashion, where you take all the chances and pay all expenses, getting 1,000 miles out of one tire and maybe 4,000 out of another?

THE CHANCES ARE that you do not know of the Ajax 5,000 Mile Tire Guarantee—a guarantee that guarantees—or, if you were, you considered it too good to be true.

THE AJAX 5,000 MILE GUARANTEE absolutely eliminates your tire hazard, enables you to figure out your whole tire expense in advance with unfailing correctness.

TO RIDE ON AJAX TIRES COSTS SO MUCH and no more. If your tire does not come up to the mark, we make good the written guarantee that goes with every tire sold.

THERE IS NO GAMBLE—NO "IF"—we do the worrying for you. In the light of the quality of Ajax Wrapped Tread Tires we can well afford to offer and execute our 5,000 Mile Guarantee.

Write for copy of Guarantee, stating what size tire you are using.
Address Dept. A.

AJAX-GRIEB RUBBER COMPANY
GENERAL OFFICES: N. E. Cor. 57th St. and Broadway, New York.
Factories: Trenton, N. J.

BRANCHES:
New York, 1776 Broadway — Denver, 1529 Cleveland Place
Boston, 819-a Boylston St. — Seattle, 1102 Broadway
Chicago, 1418 Michigan Ave. — San Francisco, 460 Golden Gate Ave.
Detroit, 743 Woodward Ave. — Los Angeles, 1040 S. Main St.
Agents in all large cities.

BEAR IN MIND

that in eight years there have been five models of Stevens-Duryea Cars. Worked out to perfection before being placed on the market—their mechanical features distinguished for being ahead of the times and because of common sense construction. Contrast the evolution of five unqualifiedly successful Stevens-Duryea Models with the every few months "improvement," radical changes, etc., in the output of some motor factories.

WHEN YOU BUY A STEVENS-DURYEA CAR YOU SECURE A MINIMUM OF UPKEEP EXPENSE AND A MAXIMUM OF PEACE OF MIND.

WRITE FOR DESCRIPTIVE MATTER

STEVENS-DURYEA CO.
690 Main Street, Chicopee Falls, Mass., U. S. A.
Member A. L. A. M.

SRB SRB SRB

The efficiency, economy and superiority of STANDARD BEARINGS is shown by their work in the THOMAS FLYER, AMERICA'S CHAMPION in the NEW YORK-PARIS RACE

THE VITAL EQUIPMENT

of this car as to bearings, in the transmission, jack shaft and rear wheels, consists of

SIXTEEN STANDARD BEARINGS

Wherever used, they prove their superiority—they run better, wear better and are better in every respect.

SEND FOR CATALOG

Standard Roller Bearing Co.
PHILADELPHIA, PA.

SRB SRB SRB

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AT LAST THE GREAT PROBLEMS OF WEIGHT, VIBRATION, NOISE AND ECONOMY ARE SOLVED

A Six-Cylinder Thomas Flyer

Six-Passenger Car
Forty Horse-power

for $3,000

Five to Fifty Miles
Per Hour on High Gear

One thousand pounds of crude and useless material eliminated. The average automobile weighs five or six times its passenger capacity. The 6-40 Thomas Flyer weighs but little more than twice its passenger capacity, reducing the cost of tires, operation and maintenance one half.

A CAR WITHOUT A NOISE, JAR OR VIBRATION.

The greatest improvement in years—a distinct and marked advance which will create a new era in automobiles, which engineers have long known must come.

AN IDEAL FAMILY CAR

Extremely artistic and refined. One to be proud of for its beauty, style and luxury, and to love for its extraordinary silence, smoothness and sweet running and easy riding on rough roads, in which it greatly excels, and which, taken as a whole, comes nearer fulfilling all requirements for family use than any car hitherto made, except those requiring extreme speed, power and size.

THERE IS NOT AN EXPERIMENTAL FEATURE IN ITS WHOLE MAKEUP

The wonderful results are due to severe simplicity and compactness of design; new arrangement of functional parts; six-cylinder constant torque; the very best quality of nickel, vanadium and heat-treated steels, which are lighter and stronger; and the frictionless features of annular ball bearing cam-shafts, crank-shafts, transmission and wheels, and the highest quality of workmanship, which delivers the highest efficiency to the rear wheels.

WEIGHS ONLY 2,000 POUNDS

Features of Thomas 6-40 Flyer

In no sense is the 6-40 Thomas Flyer a cheap car: it is the other extreme.

In addition to the great advantage of ball-bearing, six-cylinder construction, it includes the most expensive features conducive to reliability and comfort, which are usually found only on $6,000 cars.

Two entirely separate and distinct ignition systems; Sims-Bosch magneto and Atwater-Kent timer for easy starting and reserve ignition; two sets of spark plugs.

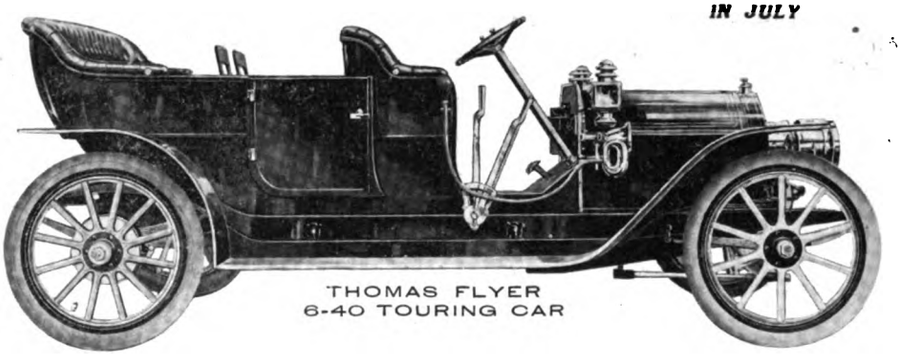
36-inch wheels and tires; low center of gravity.

3-disc clutch, encased in oil; patented.

Double Elliptic springs.

122-inch wheel base.

ALL SHIPMENTS START IN JULY



THOMAS FLYER
6-40 TOURING CAR

Gas and oil lamps.

Prestolite tank.

Hand-hammered aluminum body; seats six looking forward, most beautiful and luxuriously upholstered and finished.

Body practically suspended between axles—the modern style.

Transmission on floating type rear axle.

Drop frame. Herringbone gears for quietness.

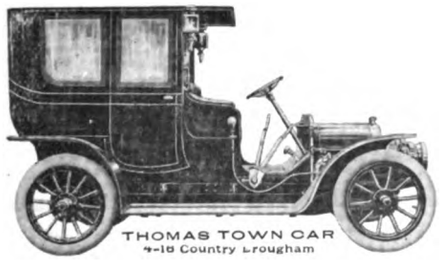
18-inch steering wheel; ball-bearing knuckle, exceedingly easy to steer.

Fan on fly-wheel. Four brakes. Three-point motor suspension; aluminum hoods and fenders; geared lubricator.

Touring Car, Flyabout, Tourabout, $3,000.00.

Limousine, $4,500.00.

OTHER 1909 THOMAS FLYERS



THOMAS TOWN CAR
4-16 Country Brougham



THOMAS FLYER
4-60 Touring Car



THOMAS FLYER
6-70 Touring Car

A CAR FOR EVERY DAY IN THE YEAR.

Winter or summer; night or day; rain or shine. Warm in cold weather. Cool in hot weather. Dry in wet weather. Closed if dressed for shopping, theater or social functions; open to the sunshine and breeze when touring.

It has a speed on high gear from five to forty miles an hour and will negotiate any passable hill or road. It will carry its people quietly, smoothly and luxuriously. It's the safest car in the crowded city streets or on a suburban road.

Owing to its short wheel base it will turn in an ordinary street without backing. It will not skid on slippery streets and owing to its low center of gravity rides smoothly without rocking. Its wide doors and low step permit of very easy ingress or egress.

TO THE OWNERS OF LARGE TOURING CARS:

This car will be used two-thirds of the year for business, shopping, theater and social functions, for which the open car is not adapted, saving more than half the expense of operation and cost of maintenance and tire renewal of a large car.

Should you live in the country it will carry you more exclusively, quietly and comfortably than a railway or street car. It fulfills any business or social requirements. It is a car that is well worth your investigation.

Country Brougham, Landaulet and Cabriolet (f.o.b. Buffalo), $3,000.

The Old Reliable Thomas Flyer—Ready For a Trip Around the World at any Minute.

Mechanically a duplicate of the stock car selected only six days before starting, without special preparation or test for the great New York-Paris Race. Won the international endurance race to San Francisco, and at this writing is still ahead. The only car that went the route; and the winner of more contests than any model in the world. Plenty of reserve power, reserve strength, reserve speed, roomy, luxurious, quiet, well balanced, splendidly proportioned.

Two separate and distinct systems of ignition. Back stop and safety device, easy riding; four very large brakes. Thomas three disc clutch patented. Four speeds forward and reverse. Easy steering.

This is practically the third year for Model F. Each year a little smoother, a little faster, more refined, more luxurious.

Touring Car, Flyabout, Tourabout (f.o.b. Buffalo), $4,500.00.

Limousine, Landaulet (f.o.b. Buffalo), $6,000.00.

THE MOST POWERFUL, COMPLETE AND LUXURIOUS STOCK CAR MADE.

The very climax of automobile construction. Equipped with top, speedometer, clock, prestolite tank, tire irons, two separate ignition systems, geared fans, oilers and pumps. Everything that money can buy.

Splendid body balance and exceedingly easy riding.

The greatest reserve of power, speed and strength with the constant torque of six cylinders, insures the smoothest running on high gear amidst the crowded streets or on muddy roads and steep hills.

The 1909 model will be faster, smoother and quieter than ever. The 6-70 Model K is the fastest stock car in the world. It eats up the hills on high speed easier than the average car takes smooth roads and excites an exultation, pleasure, contentment and pride not possible with any other car.

Touring Car, Flyabout, Tourabout (f.o.b. Buffalo), $6,000.00.

Limousine, Landaulet (f.o.b. Buffalo), $7,500.00.

E. R. THOMAS MOTOR CO., BUFFALO, U. S. A.

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Full Information on Request
We Solicit Correspondence

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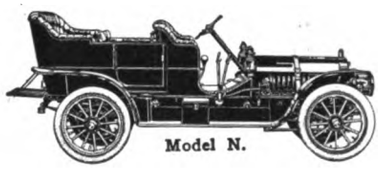
Empire Tires
WEAR LONGEST

EMPIRE AUTOMOBILE TIRE COMPANY, - TRENTON, N. J.

New York, 148 Chambers St., and Broadway and 73d St.; Boston, 292 Devonshire St.; Buffalo, 724 Main St.; Fobes Auto Supply Co., Portland, Ore.; Fobes Auto Supply Co., Seattle, Wash.; Waite Auto Supply Co., Providence, R. I.; Chicago, 1301 Michigan Ave.; Atlanta, Ga., Dunham Rubber Co.; Denver Auto Goods Co., Denver, Colo; Penn Auto Supply Co., Philadelphia, Pa.; Savell Rubber Co., Jacksonville, Fla.; Empire Tire & Rubber Co., Minneapolis, Minn.

National
Motor Cars

afford the purchaser the very best value to be had on the market at present. All Nationals are equipped with Ball Bearings throughout, including the motor.


Model N.

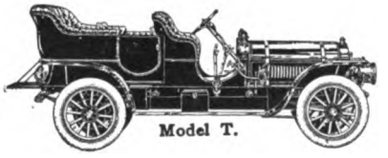
Model K—4 cyl., 4⅞ x 5
$3,500

Model N—4 cyl., 5 x 5
$3,700

All Nationals have two complete systems of ignition.

Model R - 6 cyl., 4½ x 4¾
$4,200

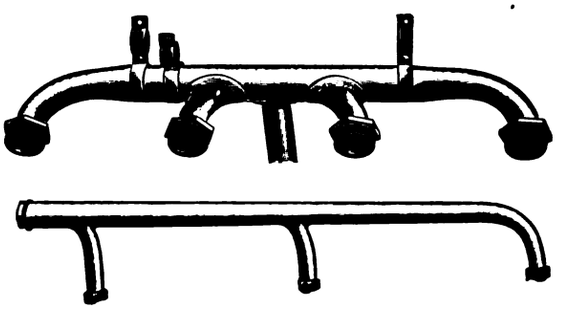
Model T—6 cyl., 5 x 5
$5,000


Model T.

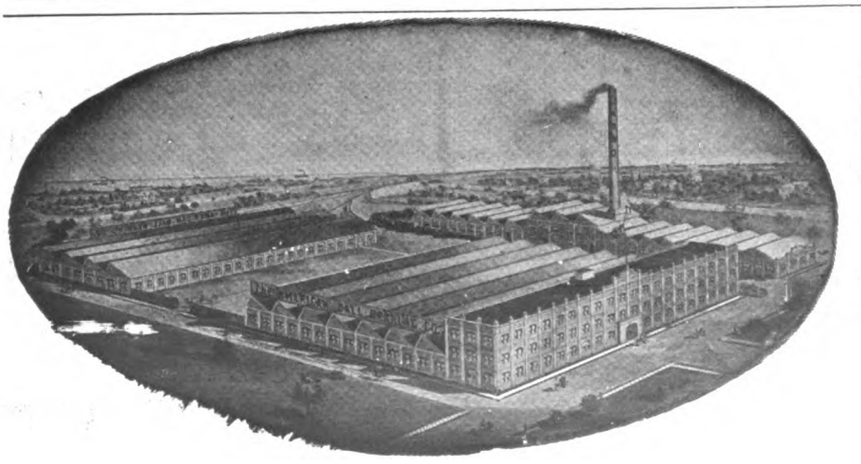
Write for particulars and our Booklet "What Owners Say About Their Nationals."

National Motor Vehicle Co.
1007 E. 22d Street INDIANAPOLIS, IND.

INTAKE AND EXHAUST PIPES WATER INLET AND OUTLET PIPES



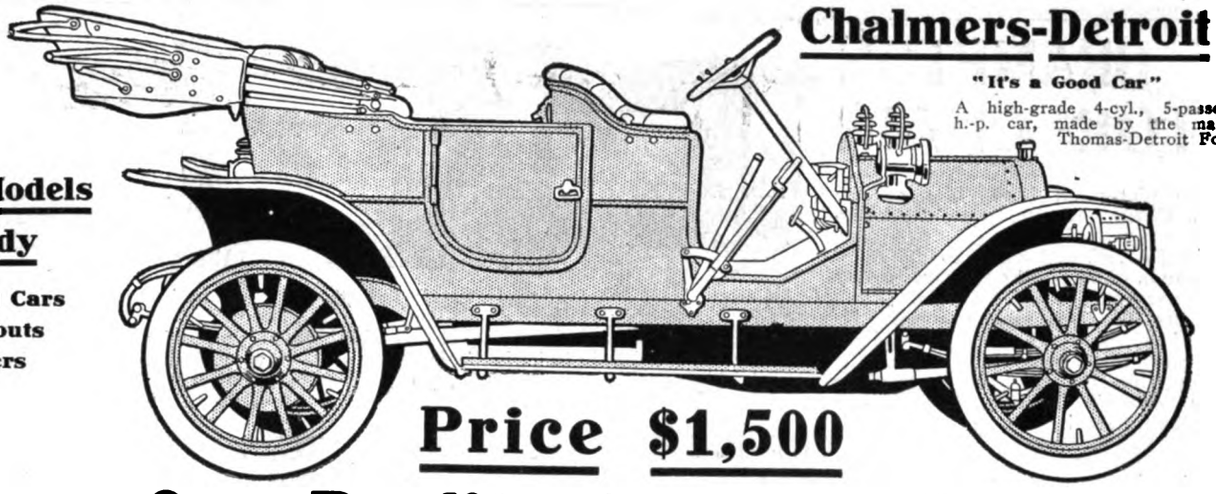
THE WHITLOCK COIL PIPE CO.
HARTFORD, CONN.



The output of complete Front and Rear Automobile Axles of this plant exceeds the capacity of all competition combined.

THE American Ball-Bearing Co.
L. S. & M. S. Ry. & Edgewater Park
CLEVELAND, OHIO, U.S.A.

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Chalmers-Detroit "30"

"It's a Good Car"

A high-grade 4-cyl., 5-passenger, 24-30 h.-p. car, made by the makers of the Thomas-Detroit Forty.

1909 Models Ready

Touring Cars
Tourabouts
Roadsters

Price $1,500

Our Profit Nine Per Cent

No doubt other cars will be offered around this price. It remains for you to compare them.

Here is one so good that our profit—based on our full capacity of 2,500 cars—will be but nine per cent. Judge if anyone else gives so much for the money.

Here is one that has two years the start of all others. We have spent two years in perfecting it. It is not a makeshift—not an experiment.

This one has behind it all the reputation—all the skill and experience—we gained in making that incomparable car—the Thomas-Detroit Forty.

This one is designed by H. E. Coffin—for years the chief designer of the Thomas Companies—one of the leading automobile designers in America.

The car combines the best foreign features with the best American. For Mr. Coffin made two trips to Europe in working it out. Yet it copies nothing, either foreign or American. It simply adapts the best principles of the world's best engineers.

This car is not assembled from stock parts picked up haphazard. Every design of every part is made by our own engineers—the best engineers in the business. All the leading features are patented.

This car is luxurious—speedy and powerful—a car that you can take pride in. Low in price—economical in upkeep—yet with all the perfections of the costliest cars.

Compare it with rival cars—with any car costing up to $2,000. We are willing to abide by your judgment.

The first of these cars cost us $33,000. Then last winter, when things looked bluest, we contracted for $3,000,000 worth of materials—to save you 20 per cent.

That is how we made this car possible—by taking enormous risks. Yet we ask for our profit a paltry nine per cent.

Our 1909 cars are now being delivered.

Note These Facts, Too

The factory cost on this 4-cyl engine is $261. Yet 4-cyl. automobile engines are sold as low as $75.

The transmission costs us $94. The axles—made of Nickel Steel—cost us $125.

The annular ball bearings used in this car cost $103. We use as many as the Mercedes uses—the Hotchkiss or Renault.

Look at these costs again. Then think that they refer to features of a $1,500 car. We could save half or more on any of them were we trying to stint on this car.

We equip this car with Diamond QUICK DETACHABLE tires. The usual clincher tires would cost 15 per cent. less.

We authorized our factory to spend on the body finish 15 per cent. more than their estimate. Our crank shaft is larger than on any American car under 60 h. p. Our brakes are enormously strong.

Twice the price can buy no better features. It can only buy more power.

The same economy applies to extras and to replacements. We furnish one of the best tops for $100. A Simms-Bosch Magneto for $125. Two gas lamps and a gas tank for $50.

Our repair parts are all sold on a reasonable margin—not at the usual profit of 200 or 300 per cent.

The four cylinders are cast together, as in the latest Fiat, Mors, Argyll and Hotchkiss. This gives lightness, compactness, perfect alignment, and a dozen other advantages. The only argument ever advanced against it is "cost of replacement." We answer this by furnishing a set of four cylinders for $35, less than most makers charge for two or even for one cylinder.

We use the Unit Power Plant, as in the latest Decauville, the new Hispano-Suiza, and the Motobloc. Motor, clutch and transmission form a single unit, so they cannot get out of line.

The wheel base is long—110 inches—insuring easy riding. The body is suspended between the axles, after the style of the Mercedes.

Valves like the new Napier. The ¾ elliptic springs like the Renault. Multiple disc clutch like the Isotta and Fiat.

The gas intake is water jacketed to avoid the troubles caused by cold gasoline. Constant level splash lubrication—perfect dust protection.

Floating type rear axle, used heretofore only on the costliest cars. Selective sliding gear transmission—three speeds and reverse. Anti-backing device to protect you on hills. Provision for double ignition system.

So simple in control that a novice can master the car in ten minutes. A single pedal operates both clutch and brake.

It is easy to claim the best car at the price. But compare the facts—put all claims to proof. We have no competition to fear.

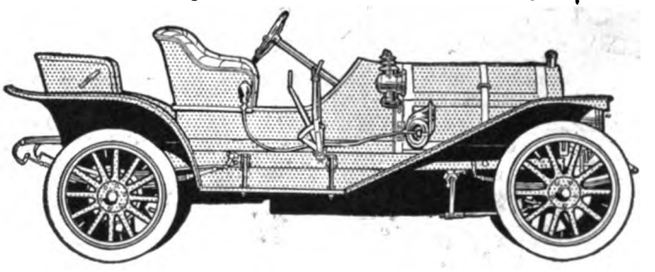
It is also easy to criticize features that others can't afford—devices that others can't copy. But let us answer those criticisms and you will realize how weak and how futile they are.

At this writing it looks as if the demand for this car would be twice our supply. Orders are filled in turn, or you can reserve a car for future delivery.

Please act at once—send for our catalog now. For, when our output is taken, you can find no car within $500 of our price to compare with the Chalmers-Detroit "30." Don't wait and regret.

Chalmers-Detroit Forty

Formerly the Thomas-Detroit Forty



Chalmers-Detroit Forty Roadster, $2,750

The best guarantee that our $1,500 car has is the fact that it is made by the makers of the Chalmers-Detroit Forty.

This car is incomparable. We have never been able to make enough of them to supply the demand. Our output every year is sold before June, and this year (1908) we could have sold 200 more.

The 1909 models of the Forty—now ready—are the same as the 1908 models, save for the brakes and the springs. The brakes are heavier, the springs more easy riding. We know no way to improve it. The records it made during the past two seasons prove it the best medium-priced car that is made. Its users seek for nothing better.

We advertise our Forty in but a limited way. Our present users, through their endorsements, more than sell our output. The only way to get one is to order early.

The 1909 models of the Chalmers-Detroit Forty are shown in our catalog. Made in two styles—Touring Car and Runabout. Price $2,750.

This change in name involves no change in ownership, personnel or management. It is simply made to avoid the confusion of two Thomas concerns operating on separate lines.

Chalmers-Detroit Motor Co., Detroit Mich.

HUGH CHALMERS, President
Successors to E. R. Thomas-Detroit Co.

CUT THIS OUT
as a reminder to send for our catalog. Address Chalmers-Detroit Motor Co., Detroit, Mich.

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THE BRAMPTON MOTOR CHAIN



All side plates on both sides of the Brampton Chain are stamped **"BRAMPTON."**

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement. THE BRAMPTON CHAIN is made of self-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like **THE CELEBRATED BRAMPTON CHAIN** because some of the other chain makers began to copy the design and shape of the **BRAMPTON CHAIN** links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the **BRAMPTON CHAIN** than ever before. These chains somewhat resemble the **BRAMPTON** in appearance, but the manufacturers of such chains have been unable to copy the material —self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the **BRAMPTON MOTOR CHAIN** in the past ten years.—**"ENUF SED."**

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the **BRAMPTON FILLS THE BILL,** and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size. We have in stock chains to fit all American and foreign cars.

YOUR 1909 CAR

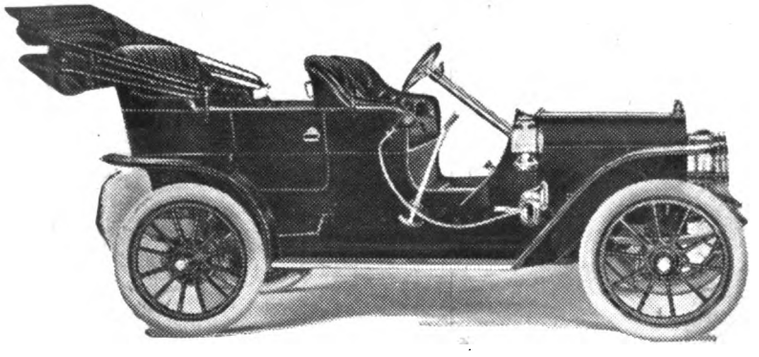
You can have the new car that you order fitted with the **CELEBRATED BRAMPTON CHAIN** if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.
Agents wanted in unoccupied territory. Catalog on request.

CHAS. E. MILLER, Manufacturer, Jobber, Exporter and Importer
Main Office: 97-99-101 Reade Street, New York

BRANCHES: 54th St. and 8th Ave., New York. 202-204 Columbus Ave., Boston, Mass. 318-320 N. Broad St., Philadelphia, Pa. 227½-229 Jefferson Ave., Detroit. 1829 Euclid Ave., Cleveland, O. 1392 Bedford Ave., Brooklyn, N. Y. 824 Main St., Buffalo.

OAKLAND



Model B Touring Car, price $1,350.00. Full equipment, including two gas lamps, two side oil lamps, one tail lamp, generators, horn, tools, jack, pump and batteries. Top, $75.00 extra. Runabout, $1,300.

¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

¶ The live agent will find in the Oakland a car that appeals to a large and intelligent class of purchasers and that will justify the fullest confidence.

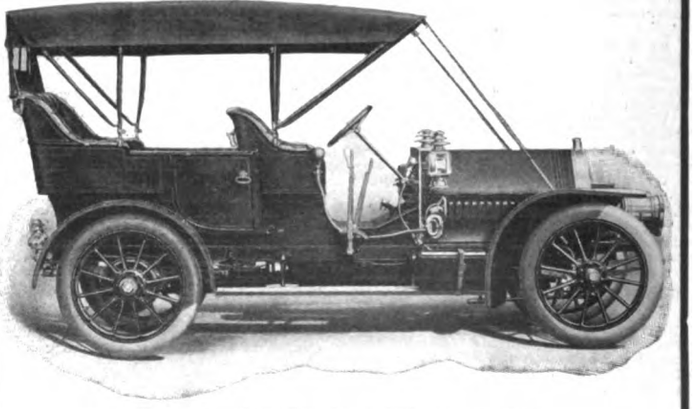
¶ Correspondence invited.

OAKLAND MOTOR CAR CO., Pontiac, Mich.

J. B. ECCLESTON, Sales Manager, 53 Franklin St., Buffalo, N. Y.

THE "JEWEL 40"

THE "NON-SKIDDING" CAR



Compare following specifications with other cars at $3,000.

36-inch Wheels. 36x4-inch Diamond, Hartford, Michelin, or Goodyear Tires. 120-inch Wheel Base. 2 Independent Ignition systems—Bosch Magneto, Connecticut Coil and Storage Battery. 40-45 H. P. 4-cylinder engine. Timken axles. Hedgeland Equalizer or Non-Skidding Device. Seven Passenger Body.

Write for catalogue. Good proposition for dealers.

THE FOREST CITY MOTOR CAR COMPANY

234 Walnut Street, - Massillon, Ohio, U. S. A.

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$2000

THE SELDEN CAR

Finished the Glidden Tour with a CLEAN SCORE and Was Deprived of a "Perfect Score" by a Technicality

We entered a stock car, which had already been run over 5,000 miles, without any shock absorbers, straps, bumpers or other safety appliances, complying strictly with the rules as to equipment. (All other cars were equipped with these devices.)

Our car was equipped with a speed indicator, the sprocket connection of which worked loose crossing the mountains in Western Pennsylvania and fouled our steering knuckle, making it impossible to avoid a large boulder in the middle of the road, and we broke a front spring in consequence.

The broken spring did not penalize us, nor the repairing of the spring, but because we used four machine-made nuts (instead of four hand-made nuts) we were disqualified from further contest for the Glidden Trophy.

Our car continued the tour as a non-contestant, checking in and out every day, observing all the rules and finished with a clean score.

It was in such good condition upon arriving at Saratoga that we made a non-stop run from Saratoga to Rochester, a distance of 272 miles on the following day without any adjustment whatever.

Our "extra parts" bag was not opened on the entire trip. No other car did any better.

COMPARE OUR CAR WITH OTHERS IN THE TOUR AND SEE WHAT WE HAVE ACCOMPLISHED

Demonstrating the highest quality of workmanship and material, durability, stability and the all-important fact that a strictly first-class gentlemen's car can be made and sold for $2000.

Why Pay Double the Price for a Name-Plate?

Duplicates of this car are now ready for delivery.

All our cars are sold with a guarantee and with all that we have out during the past season the cost of repairs amounts to little or nothing.

The "Silent Selden" (as the car has become known by its quiet running) is made on honor, a credit to the name of the man who invented gasolene automobiles, and every owner is proud of his purchase.

Superb riding, roomy tonneau, luxurious upholstery, smooth running, great hill climber, flexible and easily handled, economical in up-keep, stylish and attractive—the coming car of the multitude.

Now closing 1909 agencies—over half our output already spoken for. Good live agents wanted everywhere. Send for catalog and agency proposition.

SELDEN MOTOR VEHICLE COMPANY, Rochester, N. Y.

Members A. L. A. M.

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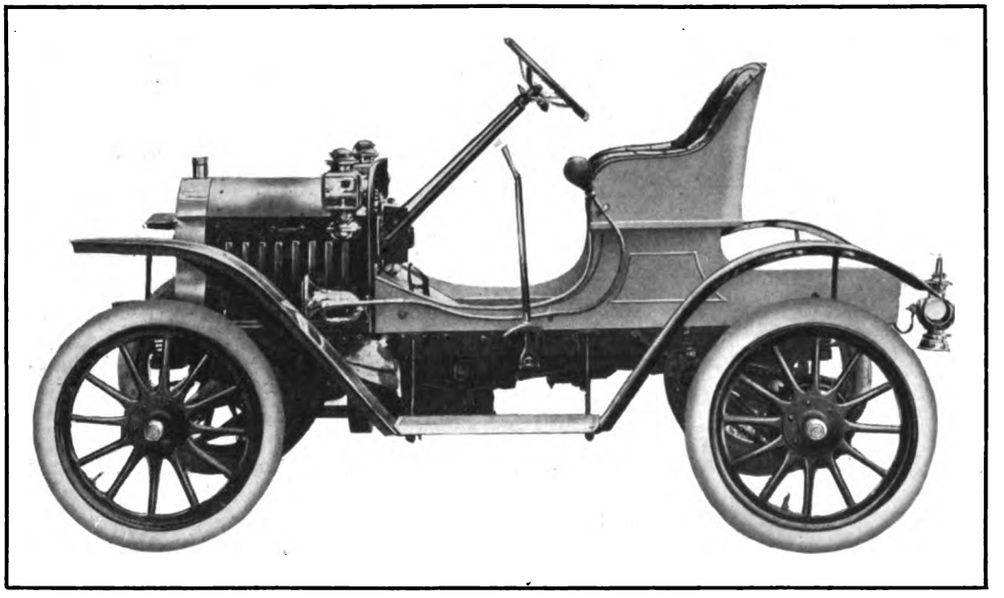
BRUSH RUNABOUT WINS

THE SILVER CUP IN ITS CLASS AT THE

Fourth Annual Algonquin Hill Climb

OF THE CHICAGO MOTOR CLUB

against the Buick, Chalmers-Detroit, Moline and Jackson



MODEL B BRUSH RUNABOUT

There is nothing strange about the Brush Runabout winning hill climbs, endurance runs and such contests. It is not a toy as some would lead you to believe. It is a simple design made well—not a complicated design made cheaply.

The best demonstration of all of the Brush Runabout performance is the big Efficiency Run of five cars, now closing. They have stood up without trouble, worry or annoyance on this run, over every conceivable sort of road—sand, mud, rocks, hills, as they happen—everywhere between Boston, Washington, Kansas City, Minneapolis and Detroit. Write for booklet soon to be issued giving the data on this run.

Brush Runabout Co., Detroit, Mich.

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You Can Afford the

$2000

Mitchell

—Afford to **buy** it because it is moderate in price.

We know you can afford to **keep** it, because we have many letters from users of Mitchell, testifying from actual daily experience, that it is the most economical car to **operate.** Before **you** buy a car, send for these letters and try a Mitchell in a 50 or 100-mile road test.

In demonstration, you'll notice not only that its style, finish and construction is equal to that of the extravagantly high priced cars, but that its **performance is too.**

Proof is easy, Mr. Business Man.

The Mitchell Agent will be glad to take you out at any time you say. Just call him up—no obligation on your part.

Try the $2,000 Touring Car—the $2,800 Limousine—the $1,250 Roadster or the $1,000 Runabout.

Get demonstrations of high priced cars and compare the Mitchell with them.

Call up the Mitchell Agent to-day and just say

"Show Me."

The Mitchell Touring Car shown below is 35 H. P.—4-cylinder—speed, 50 miles—finish, Mitchell blue—price, $2,000.

Write for Catalogue No. 18, describing the other Mitchell models.

Mitchell Motor Car Co., 285 Mitchell street, Racine, Wis.

Standard Manufacturers,
A. M. C. M. A.



THE INCOMPARABLE

WHITE

THE CAR FOR SERVICE



"Just Open the Throttle and Steer"

The above phrase summarizes the directions for operating the White Steam Car. No other car even approaches the White in the simplicity of the operations of driving. In the White, all speeds from zero to maximum are obtained by throttle control. There is no clutch, no changing of gears and no "cranking." The working parts do not need to be readjusted with each change in the atmospheric conditions. There are no "hit-and-miss" electrical devices and all parts of the mechanism are positive in their action. The supply of water and the supply of fuel are automatically controlled so that the temperature and pressure of the steam remain constant, without in any way engaging or requiring the attention of the operator. The White is thus the favorite car with those who wish to drive and to take care of their own machines.

A Postal to us Brings a "White Steamer Education" by Return Mail

THE WHITE COMPANY

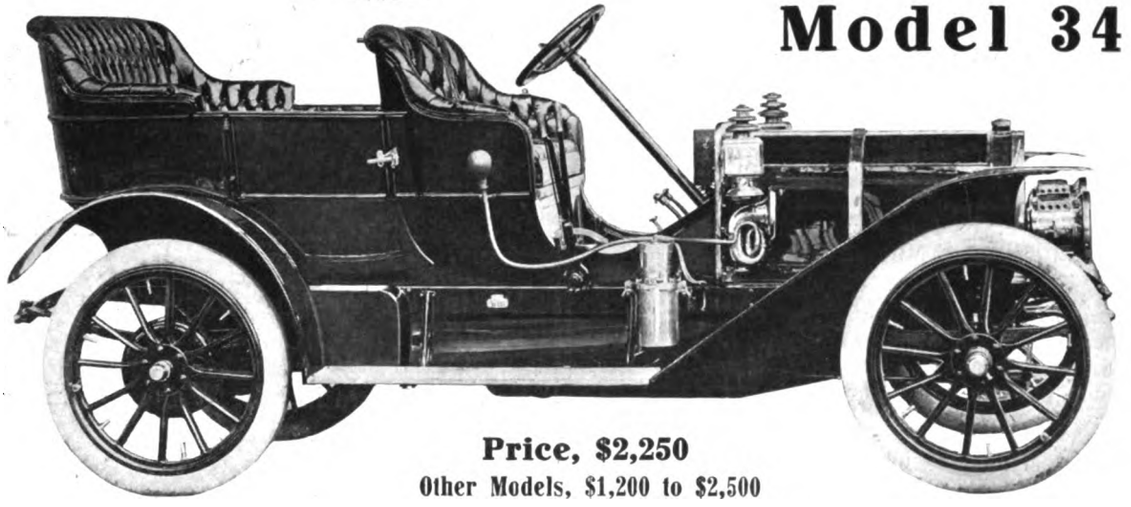
CLEVELAND, OHIO

PITTSBURG, 138-48 Beatty St. ATLANTA, 120-122 Marietta St.
SAN FRANCISCO, 1460 Market St. CLEVELAND, 407 Rockwell Ave.
NEW YORK CITY, Broadway at 62d St. BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St. CHICAGO, 240 Michigan Ave.

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Rambler

Model 34



Price, $2,250

Other Models, $1,200 to $2,500

TRY IT ON THE HILLS

Test this car at half speed on a hill or sand road where power and every ounce of it is needed. Notice how steadily and powerfully it pulls when running slowly under load.

The capacity of the offset crank shaft for doing this extra work is most noticeable at low engine speeds. All that power which in other engines is lost through friction on the bearings and cylinder walls, is added to the driving force by the Rambler offset crank shaft. It reduces friction; eliminates hammer on bearings; gives more power.

The straight line drive delivers the power direct and with least frictional loss to the rear axle. Let us demonstra e these features and the silence and the comfort of this car.

Tell our nearest representative to call at your home and take you to your place of business some morning in a Rambler. Or write your name and address and "Model 34" on a postal and mail to us today.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco.

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, August 20, 1908. No. 21

MERGER PLAN APPEARS TO HALT

Rumored Hitch in Proposed Maxwell-Briscoe and Buick Amalgamation—Official Confirmation or Denial Withheld.

According to reports, a serious hitch has developed in the proposed amalgamation of the Maxwell-Briscoe and Buick interests into the projected "International Motor Co." with a capitalization of $25,000,000 more or less; indeed, one report states that all negotiations in this direction have been abandoned.

Confirmation of the stories, however, is not possible. Benjamin Briscoe, the president of the Maxwell-Briscoe Motor Co., is at present in the West where he will remain for a couple of weeks, ostensibly seeing western agents, although the portion of his time that is being spent in Chicago is suggested as having a bearing on the proposed merger. He could not be reached, of course, and the treasurer of the company, Richard Irvin, whose law and banking offices at 25 Broad street, New York, hold most of the details and transactions in connection with the negotiations, when asked yesterday as to the truth of the report that the plans for the combine has been dropped, said that he was in such a position at present that he could affirm or deny nothing in relation to the situation.

Motor Car Planning to Leave Detroit.

Pressed for a decision like a maid with two ardent suitors, the Motor Car Co., of Detroit, Mich., is undecided whether to move to an Ohio town that wants it or to a Michigan location that is making heavy inducements. In either event, the removal of the company's works from Detroit will take place in the not distant future.

Franklin Settles Foreign Suit.

Litigation between the H. H. Franklin Mfg. Co. and Messrs. Vander Wielen & Schwiebbe, of Belgium, in the matter of cancellation of trade mark "Franklin" registered in that country to cover automobiles, etc., has been terminated successfully by judgment of the court and agreement on the part of Vander Wielen & Schwiebbe allowing the Franklin company's registration to stand so far as automobiles and automobile parts are concerned; Vander Wielen & Schwiebbe, however, retain the registration so far as it applies to bicycles, bicycle parts, etc.

Herreshoff to Build Automobiles.

Charles F. Herreshoff, the Bridgeport (Conn.) inventor, designer and builder of the Den, the speedy motor boat, has severed his connection with the American & British Co., of Bridgeport, and is about to remove to Detroit, where there already has been organized under the laws of Michigan the Herreshoff Automobile Co. Herreshoff has designed a light automobile motor which he anticipates will create something of a furore and which will be incorporated in a car which will be produced by his new company in Detroit.

Bendix After Logansport Capital.

The citizens of Logansport, Ind., are being asked to subscribe for $75,000 worth of 6 per cent. stock in the Bendix Automobile Co., of Chicago, in return for which favor the Bendix concern will build a factory "in their midst," guaranteed to employ 200 men. The Logansport Industrial Association is looking into the project.

Rock Creek in Receiver's Hands.

With liabilities exceeding $16,000 and assets estimated by the proprietors at $26,000, the Rock Creek Auto and Wagon Works, of Washington, D. C., has gone into the hands of a receiver. Attorney Charles F. Diggs has been appointed to act in this capacity.

Forge Concern to Make Runabouts.

The Sizer Forge Co., Buffalo, N. Y., is working on the plans of a high-powered runabout with a view of engaging in its manufacture. They are in the market for a number of the necessary components.

MAY SELL POPE-WAVERLY PLANT

Receivers Get Favorable Offer for the Indianapolis Property—Negotiations in Progress Through Broker.

It is not improbable that the receivers of the Pope Mfg. Co. shortly will dispose of the Pope-Waverly plant in Indianapolis. It is known that an offer, accompanied by a substantial cash deposit, has been made for the property and that the receivers will ask the courts to set a date for a hearing on the proposal. It is expected that this application will be made to-day.

While a report from the West states the amount offered for the plant is $300,000, the report lacks authentication. Nothing definite has leaked out regarding this item, nor is the identity of the prospective purchasers traceable. They are conducting negotiations through an Indianapolis broker.

Shortly after the Pope Motor Car Co. went into the hands of receivers a quiet effort was made to form a company to purchase the Waverly plant, the movement going as far as the printing of a prospectus of the "Waverly Motor Car Co." Nothing came of it, however, and the present negotiations are said to have no connection whatsoever with the earlier movement.

Kissel Shot by Angry Employe.

L. Kissel, of the Kissel Motor Car Co., of Hartford, Wis., was yesterday shot by John Gerbier, an enraged employe, at the company's store in Milwaukee. Two bullets entered his head and one shot penetrated his stomach. As Kissel is 70 years old, his recovery is doubtful.

Plow Makers May Build Buggies.

The Shunk Plow Co., Bucyrus, Ohio, has built two motor buggies and now is testing them on the road, with a view of engaging in the manufacture of such vehicles. A definite decision will be reached after the test is completed.

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IN THE RETAIL WORLD.

Armin E. Mill has opened a repair shop at 114-116 Brady street, Allijan, Mich.

A petition in bankruptcy has been filed against the Charleston Motor Co., Charleston, S. C.

G. A. Boener is building a garage at Cedarburg, Wis. He will rent cars, do repair work and deal in automobile supplies.

Burkhard Brothers are opening a big garage on Main street, St. Joseph, Mich. A renting service will also be maintained.

The W. H. Ellis Motor Car Co., Newark, N. J., will occupy its new garage and salesroom on Washington street, about September 1st.

W. O. Reilly, who has been operating an automobile livery between Greenbush and Roseau, Minn., has arranged to extend his business to Crookston.

George Stephenson's garage, 1543 Clarkson street, Denver, Col., was burned on the 13th inst. Two automobiles valued at $4,000 were rendered useless.

The Winton branch at Minneapolis, Minn., soon will be housed permanently in its own new building on Eighth street, north, near Hennepin avenue.

The Buick-Losey Automobile Co., of Indianapolis, has removed its sales and repairing rooms from Massachusetts avenue to 130-132 East New York street.

J. J. Cleary, 815 South Kedzie avenue, Chicago, has started a well equipped garage. Renting and repairing will be done, in addition to the regular garage service.

Leo F. N. Baldwin has bought out B. F. Blackington's interest in the Central Automobile Exchange, Fountain street, Providence, R. I., and now is sole proprietor of the business.

A White Garage has been established in San Diego, Cal., and another shortly will be located in Santa Barbara in the same State. Both will be branches of the White Garage of Los Angeles.

J. B. Kleese's garage, near Wick avenue and Wood street, Youngstown, Ohio, was burned Thursday, 30th ult. The bicycle repair shop of H. E. Woodworth, adjoining it, was badly damaged.

Robert Veitum and R. B. Wray, of Eugene, Ore., have formed a partnership to conduct an automobile business. Wray already has an agency, and the new firm plans establishing a well equipped garage.

The Diamond Rubber Co. will transfer its Boston branch to new quarters in the Pope building, 223 Columbus avenue, on September 1st. The branch has outgrown its present quarters at 174 Columbus avenue.

The Buick Motor Co., of Flint, Mich., has acquired the Buick-Waller Automobile Co., of Grand Rapids, for the purpose of establishing a western Michigan branch there. George W. Waller will be the manager.

Chester C. Henry opened this week in Newark, N. J., a new establishment where he will handle second hand cars during the summer, taking on a full line of a standard make of car next fall. His location is 283-285 Halsey street.

By a fire at Polk and Golden Gate avenue, San Francisco, on Monday, 3d inst., the Standard Motor Car Co., 503-5 Golden Gate avenue, lost its establishment. Three automobiles were the only propety saved. The loss is placed at $10,000.

The Utica Motor Car Co., of Utica, N. Y., has purchased the business of the Genesee Automobile Co., of Syracuse, N. Y., and will henceforth conduct establishments in both cities. The Genesee garage in Syracuse is at 242 West Genesee street.

H. C. Taylor, formerly of San Francisco, and J. H. Madison, of Petaluma, Cal., have formed a partnership and are fitting up a garage in the Hess block on Main street, Petaluma. They will handle automobiles, automobile supplies and sporting goods.

The garage and office of the White company at 220 Sixth street, S., Minneapolis, has been remodeled and redecorated. The front of the building, which formerly was occupied by the American Automobile Co., has been newly finished in white enamel.

Work was begun July 17th on the new garage at 233 Halsey street, Newark, N. J., to be occupied by the Atlantic Motor Car Co. The building will be three stories high, with a frontage of 50 feet on Halsey street, and will be constructed of fireproof brick.

A new tire house has been started in Wheeling, W. Va., to do a general agency and repair business. It is the Griffin Auto Tire Repair Works, located at Fourteenth and Chapline streets. Full equipment for extensive repair work has been installed.

Fred Weinmann has opened a garage at 1649 Vincennes avenue, Chicago Heights, Ill. He has an agency for the Cartercar and deals in motorcycles, bicycles, tires and general supplies. The garage is equipped with facilities for charging, vulcanizing and repairing.

The Boston store of the Dow Tire Co., has been removed to larger quarters. A commodious store at 889 Boylston street, in the newer automobile district, has been taken and a full stock of the Dow non-deflation tubes will be carried both for wholesale and retail purposes.

Paul Mulvane, Topeka, Kan., has sold his garage and automobile repair business at Seventh and Quincy streets, to Terry Stafford, formerly superintendent at the Smith automobile factory. He retains the tire and supply department of his business and will continue at the same location.

C. M. Coats is planning for the erection of a new garage on South Lasalle street, Aurora, Ill. The building will be constructed of cement and will be 160x60 feet in ground dimensions. The equipment will be thoroughly up to date, and a machine shop will form part of the establishment. Coats is located at present on South Water street.

The Thomas Flyer Renting Agency is a new branch of enterprise which Harry S. Houpt has added to his business at Broadway and Sixty-third street, New York City. Cars with either touring or limousine bodies are rented out, with drivers in correct livery, and the parties hiring them can put on all the front of private owners. Special rates are made for day trips.

Thomas B. Jeffery & Co., makers of the Rambler automobile, in the name of the Rambler Garage Co. of Chicago, will erect at 1218 Sheridan road, a 45-foot addition to the present spacious garage which has a 100-foot frontage. The addition will be three stories high, and will cost approximately $20,000. When completed it is claimed that the garage will be the largest public structure of the sort in this country.

The Chelsea Auto Storage Co., of 520 West Thirty-seventh street, New York City, is in proceedings for the dissolution of the corporation, and Judge Erlanger of the Supreme Court has appointed Arthur D. Truax as receiver. The action is brought by Directors Arthur M. Von, Lester F. Albro, and Clement L. Stephenson. The business was started several years ago by Von and Albro, and was incorporated April 10, 1907, with a capital stock of $75,000. The present assets are $1,150.

Pope Receivers Report for July.

According to the report of the receivers of the Pope Mfg. Co. in Connecticut, for the month of July, with the clerk of the Superior Court at Hartford, the cash balance in the banks and at the office at the end of the month was $326,363.29, while at the first of the month it was $587,338.47. This lessening of the cash was largely due to a transfer of $300,000 to the receivers in New Jersey for the payment of a second creditors' dividend. The receipts for the month were $121,658.30, of which the chief item was $99,227.16 in sales. The disbursements for the month were $382,633.48, of which $300,000 went to the receivers in New Jersey, as stated, while $76,871.83 was spent in materials and supplies, pay rolls, selling expenses, taxe and royalties. The last item amounted to $11,742. In addition, liabilities for materials, pay rolls, etc., accrued to the amount of $23,031, together with an interchange of liabilities and credits with the receivers in the other districts.

Castle Did Not Make the Motion.

It transpires that Fred Castle was not the member of the Motor and Accessory Manufacturers who, at Atlantic City, introduced the resolution committing the organization against participation in the next Chicago show unless the price of space is reduced. The report to that effect did Mr. Castle an injustice and apparently grew out of the fact that it was he who made known that the executive committee had taken action of the sort.

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THE WEEK'S INCORPORATIONS.

Chicago, Ill.—Berliet Import Co., under Illinois laws, with $2,500 capital; to deal in automobiles and machinery and parts therefor.

Denver, Colo.—Auto General Supply Co., The, under Colorado laws, with $18,000 capital. Corporators—J. C. McGill, George H. Phelps.

Chicago, Ill.—Perfection Emergency Tire Co., under Illinois laws, with $25,000 capital. Corporators—G. C. Grable, W. R. Hartley, D. W. Norris.

Dover, Del.—Co-operative Garage Co., under Delaware laws, with $150,000 capital. Corporators—J. W. Ebbs, F. H. Lord, H. H. Nieman, New York City, N. Y.

Cleveland, O.—Cleveland Auto Cab Co., under Ohio laws, with $150,000 capital. Corporators—A. C. Miller, J. C. Brooks, A. T. Welch, M. C. Mulhall, George A. Howells.

Boston, Mass.—Taxi Service Co., under Massachusetts laws, with $120,000 capital; transportation business. Corporators— J. L Miller, Boston; C. F. Lovejoy, Lynn, Mass.

Richmond, Va.—Foster Motor Car Co., under Virginia laws, with $3,000 to $10,000 capital. Corporators— C. L. Young, Norfolk, Va.; L. M. Foster, Nixon Ball, Richmond, Va.

Chicago, Ill.—Cross Tread Anti-Skid Co., under Illinois laws, with $5,000 capital; to manufacture automobile accessories. Corporators—J. J. Sheridan, C. R. Murphy, C. G. Hutchinson.

Milwaukee, Wis.—W. L. Hibbard Motor Car Co., The, under Wisconsin laws, with $50,000 capital; garage business. Corporators—William L. Hibbard, William T. Bradley, James A. Wright.

Jersey City, N. J.—McKeen Motor Car Co., under New Jersey laws, with $1,000,000 capital; to manufacture motor cars and engines. Corporators—G. E. Downes, B. F. Russell, T. F. Barrett.

Cortland, O.—Cortland Transfer Co., The, under Ohio laws, with $10,000 capital; to operate automobile line. Corporators—Lewis Hutton, E. E. Faunce, J. H. Faunce, F. M. Griffin, H. S. Post.

Chicago, Ill.—Crescent Motor Car Co., under Illinois laws, with $100,000 capital; to manufacture and deal in motor cars and auxiliary machinery. Corporators—F. D. Moor, C. P. Hatter, W. J. Crumpton.

Chicago, Ill.—Standard Automobile Supply Co., under Illinois laws, with $10,000 capital; to manufacture and deal in automobiles, etc. Corporators—W. F. McCarthy, George B. Levy, A. S. Henley.

New York City, N. Y.—Goodman Sales Co., under New York laws, with $500 capital; automobiles. Corporators—Edwin D. Hayes, Martin C. Ansorge, Joseph Thomas, 115 Broadway, New York City, N. Y.

New York City, N. Y.—Detroit Cadillac Motor Car Co., under New York laws, with $5,000 capital. Corporators—William H. Murphy and Wilfred Leland, Detroit, Mich.; Henry B. Potter, New York City, N. Y.

Buffalo, N. Y.—Brunn's Carriage Mfg. Co., under New York laws, with $100,000 capital; to manufacture wagons, carriages, automobiles, etc. Corporators—H. Brunn, E. W. Harrington, F. A. James, Buffalo, N. Y.

Los Angeles, Cal.—Western Multi-Motor Co., under California laws, with $200,000 capital. Corporators—John Braunwalder, Robert B. Macintosh, Irving B. Stillan, Helen M. Braunwalder, Elise M. Macintosh.

Grand Rapids, Mich.—Muller Auto Mfg. Co., under Michigan laws, with $2,000 capital. Corporators—Joseph Renihan, William A. Bates, William F. Stadel, Charles E. Hessey, A. J. Miller, Harry W. Bissell, Michael Colleton.

Buffalo, N. Y.—Chief Motor Co., under New York laws, with $250,000 capital. Corporators—Earl W. Bailey, 27 Putnam street; G. Willis Wheeler, 80 Ashland avenue; Porteus R. Cunningham, 168 Richmond avenue, Buffalo, N. Y.

New York City, N. Y.—George H. Tyrrell Co., The, under New York laws, with $5,000 capital; garage. Corporators—George H. Tyrrell, Joseph F. Althause, 2639 Webster ave.; William F. Burrough, 280 Broadway, New York City, N. Y.

Hasbrouck Heights, N. J.—Enterprise Automobile Co., under New Jersey laws, with $100,000 capital; to manufacture automobiles, engines, etc. Corporators—J. F. Coleman, J. L. Lotsch, E. S. H. B. Schultz, Hasbrouck Heights, N. J.

New York City, N. Y.—Co-operative Garage Co., under New York laws, with $10,000 capital. Corporators—J. Reibstein, 76 William street, E. W. Webb., 15 William street, New York City, N. Y.; F. L. Tyson, 44 Court street, Brooklyn.

New York City, N. Y.—Broc Auto Ignition and Supply Co., under New York laws, with $5,000 capital. Corporators—Paul L. Snutzel, 116 Nassau street; James Parkes, 15 Wall street; Albert De Barres, 1692 Broadway, New York City, N. Y.

New York City, N. Y.—Suburban Auto Express Co., under New York laws, with $25,000 capital; transfer and express business. Corporators—A. N. Bingham, New Rochelle, N. Y.; R. G. Hamilton, New York City, N. Y.; M. M. Whipple, Brooklyn, N. Y.

New York City, N. Y.—Moon Motor Car Co. of New York, under New York laws, with $5,000 capital. Corporators—Charles A. Duerr, 325 West Ninety-third street; Edward W. Elverson, 2186 Broadway; Harry Eckhard, 111 Broadway, New York City, N. Y.

New York City, N. Y.—Knickerbocker Tire and Repair Co., under New York laws, with $10,000 capital. Corporators—William J. Staunton, 321 Pacific avenue, Jersey City, N. J.; John J. Walsh, 229 West 148th street, Charles P. Bispham, 601 West 169th street, New York City, N. Y.

Ogden, Utah—Ogden Canyon Automobile Co., under Utah laws, with $25,000 capital; to operate line of sight seeing cars. Corporators—J. S. Corlow, Albert Scowcroft, Joseph Decker, D. A. Smyth, M. S. Browning.

Wilmington, Del.—Auto Co. of Wilmington, The, under Delaware laws, with $10,000 capital; to deal in automobiles and automobile supplies, gas engines, etc. Corporators—A. B. Wilding, George B. Elliott, C. E. Taylor, W. D. MacMillan and Morris Bretzfelderall, Wilmington, Del.

New York City, N. Y.—Willis Cab and Auto Co., under New York laws, with $85,000 capital; to deal in horses, to manufacture and deal in carriages, automobiles, etc., livery and boarding stable business. Corporators—J. S. Walton, A. J. Wolff, A. B. Stopel, New York City, N. Y.

Bristol Engineering Co. Incorporates.

The Bristol Engineering Co., which already has begun making "blue cabs" for the American Taxameter Cab Co., has filed a certificate of incorporation under the laws of Connecticut. This disclosed that the concern is capitalized at $500,000. The manufacture of taximeter cabs and automobiles is specified as its object. The incorporators are Albert F. Rockwell, president of the New Departure Mfg. Co.; De Witt Page and Charles Treadway, all of Bristol, Conn.

To Make Motor Buggies in Jacksonville.

Stumps and rocks, mud and ditches, make a special type of automobile more or less necessary for use in Florida, and to meet the demand for a style of vehicle that is suitable, the Southern Automobile Mfg. Co. has started operations in Jacksonville. The product will be a motor buggy with an especially high clearance, a 12 horsepower air-cooled model to sell for $500, and a 20 horsepower, water-cooled model for $650.

Grand Haven Has Vision of a Factory.

Having "solved the gasolene engine problem," Charles Boyden, of Grand Haven, Mich., is dangling the possibilities of an automobile factory before the citizens of Holland, a town in the same state. Capitalists in the latter place have been interested to a point where a meeting is to be held to pass on the proposition of backing the proposed plant.

Pontiac Concern to Assemble Cars.

Heavily laden with name, the Schuler-Morris-Jones Motor Car and Electric Co. has started up in Pontiac, Mich, to manufacture a line of cars from standard parts. It will also do rebuilding and repair work.

Brush Catches on in South America.

Brush runabouts are "catching on" in South America. The Brush Runabout Co. have just closed with Pratt & Co., of Buenos Aires, for their sale in Argentina.

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FRANKLIN Automobiles

If talking built automobiles there would be a number of them like the Franklin this year.

There never was a heavy over-weighted Franklin automobile. There never was one without good big carrying ability and speed and power in proportion to its weight; never one that didn't wear phenomenally and cool perfectly, and do its work at the lowest operating cost. And there never was a hard-riding Franklin.

The Franklin has always been simple and compact and superbly high grade; roomy and luxurious without awkward bulkiness; and extremely facile to manage and control.

We have always contended that this is the only practical sensible kind of an automobile for American roads and city streets. We have refined and developed the Franklin consistently along this same line from the start, seven years ago.

Other manufacturers laughed at our ideas then. To-day, the more wide-awake ones are trying to copy them.

But the Franklin qualities are built into the automobile. They are founded in the Franklin design. You cannot produce the combination of efficient high power with strength, light weight and easy-riding quality except through the Franklin air-cooled engine, the Franklin laminated wood frame and the Franklin full-elliptic spring suspension.

You cannot talk these qualities into existence. You cannot produce them at their best in a day or a year.

According to the old proverb—"A stern chase is ever a long one."

Weigh any Franklin; ride in it; look into its operating cost and its endurance; look at the Franklin record in the great economy test, the famous run across America, the Chicago to New York run, and the latest Glidden Tour. Then judge for yourself how near any other automobile has yet come to the Franklin standard.

16 H. P. 4-cylinder Runabout	$1,750	16 H. P. 4-cyl. Touring-car	$1,850
28 H. P. 4-cyl. Touring-car or Runabout.	2,850	42 H. P. 6-cyl. Touring-car or Runabout.	4,000

F. O. B. Syracuse.

Write for 1909 catalogue.

H. H. FRANKLIN MFG. CO., Syracuse, N. Y.

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Credit Where Credit is Due.

Farcical as was the plan for the so-called New York to Paris "race" in its original conception, including as it did a route through portions of Alaska and Northern Siberia, where the dragging of the cars on dog sledges as freight obviously would have been necessary, the later modifications of the itinerary served to bring it more within the bounds of common sense, and the actual performance of the winning Thomas car was such as in itself to redeem the whole affair from the absurdity which threatened it.

No matter how loose and ill-considered the ideas of the promoters of the contest may have been as to its conduct, the steady and faithful work of the one American competitor in plugging ahead on its own power for 12,116 miles, following the prescribed course and in ultimately getting to the point it set out for, without resort to railroad trains or similar aids on land, is justly calculated to arouse not only admiration but enthusiasm. If the promoters did nothing more than set in motion so striking an exhibition of grit and endurance on the part of the successful drivers and the demonstration of more or less typical advantages and points of superiority in American automobile design and construction for hard tourinug service, they are entitled to a certain measure of credit.

Effect of Hats on Limousines.

Fashion as a governing factor in automobile design, and more particularly in respect to the construction of bodies, has long been recognized as of marked weight. Further, that the fair sex exercises a strong influence on the sales of certain models and so has come to be directly catered to by the body designer also is known. But that changes in the mode of feminine garb could in any way be expected to control the layout of automobile bodies never would be suspected. Nevertheless such is the case. In proof of which it is announced that the heights of forthcoming limousine bodies from floor to ceiling will be somewhere about two inches lower. The only reason to which this change is ascribed is found in the forecasted lowering of fashionable headgear during the coming winter.

A striking instance of the way in which the automobile designer is forced to attend to the most trivial and apparently irrelevant matters, is furnished by the case in point. Before deciding upon the heights of his limousine designs, for example, one New England body maker, who numbers among his patrons several of the best known makers in the country, was at some pains to communicate with representative milliners in New York City in order to obtain authority for the change. For it must be understood that inconsequential as it may appear, this very item might prove the deciding factor in the choice of a car which was to be used almost wholly for evening and afternoon duty about town. With the absolute assurance that hats are coming down this fall, the designs in contemplation were carried forward with absolute confidence of their ready acceptance at the hands of the public.

Another, though less striking example of the same principle is found in the case of a car manufacturer in the Middle West who makes it a point to carry in stock a complete line of top, upholstery and floor covering materials in various colors and to keep a certain fixed number of stock bodies on hand at all times worked up to the color coat, but not finished. By this means customers are enabled to make an absolute selection of finishing materials and colors and to secure what is virtually a "special finish" order in but little more time than would be required for a stock delivery from the factory. The object of this is plainly that of catering to the wishes of the buyers' wives quite as much as to any strong inclination on the part of the buyers themselves to adopt any but the standard finish chosen by the maker for the bulk of his output. It is not difficult to pick out other instances of a less conspicuous nature in which the effort is made to exert a direct appeal upon the ladies. That such appeals have equally direct and evident effect upon the market is beyond question, though the fact is not generally appreciated.

The Matter of Sanctions.

Why the Lowell Automobile Club or any other organization or any person should be bluffed into seeking a guarantee or promise from the misnamed Automobile Club of America that it will not disqualify entrants in events, such as the Lowell road race, that are sanctioned by the American Automobile Association, is at once comprehensible and incomprehensible.

If such clubs or persons understood that a large part of the anti-A. A. A. stuff that appears in the New York newspapers, and which is copied by other prints, is the work of paid press agents and men with grievances, and that much of the remainder is "colored" by aggrieved reporters to whom the Automobile Club of America, of New York, has presented what are practically free cards of membership, such clubs or persons very readily would discover the quality of the milk in the A. C. A. cocoanut.

When the Automobile Club of America this week announced that any man or car, or maker or agent of such car, who competes in an "international race" not sanctioned by itself, men and car alike will be disqualified from competing in such races both here and abroad, it could go no further. As the accredited Guardian of Europe's Interests in America the step is perfectly logical. Its officials well know what every unbiased man knows, i. e., that the extent of its dominion begins and ends there. As the Vanderbilt cup race is the only recognized "international race" run in this country, this dominion is extensively

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circumscribed. Every unbiased man knows as well that the body which controls and administers the sport in this country is the American Automobile Association, and it is the only organization with which any sports promoter need deal. It will be a sorry day for real Americans—importers and "soreheads" excepted—when the Recognized Automobile Clubs of Europe, through the Automobile Club of America, or any other club, for that matter, can control or dominate the sport on these shores.

Anyone who applies to the A. C. A. for a "sanction" or who fears its "disqualification" either is ignorant of the situation or is easily bluffed. The A. C. A. is first and last a purely local club, even if Europe is so blind that it cannot discern this glaring truth.

The Motor World holds no brief for the American Automobile Association. On occasion, it has not spared criticism, but it is the recognized American national institution, and is of, for and by Americans. Its sanctions are the only sanctions required in America, and the penalty for failure to obtain them is clearly defined by its rules. It is the hope of the Motor World that in bringing these rules to bear, the association will not temporize, but will apply them promptly and with vigor and thoroughness.

Influence of Prices of Replacements.

Interchangeable production when carried out on a large scale brings with it other advantages besides that of reducing the first cost of the finished product. Among them one which has not as yet received its due of public notice is that of the reduced cost of replacements. Formerly, whatever exorbitant charges may have been levied upon the buyer of a car, his continuous use of it was rewarded almost without exception by charges on the inevitable replacements which amounted in many cases to what he not inaptly termed robbery. The immediate result was to swell the cost of car maintenance to a totally disproportionate figure and to help to sustain the expensive reputation of the machine. That a number of makers have been able, by virtue of improved methods of manufacture to eliminate these exaggerated costs is a strong point in their favor.

A telling instance of the way in which this movement may affect the local markets recently developed in a study of garage conditions in the West. It was found that in one city car owners and repairmen, whenever possible, were purchasing certain replacements from the stock of a particular agent regardless of the make of car involved. The secret of the large parts business done by this dealer turned out to be the extremely low price asked by the maker whom he represented for all extras and replacements on his own machines.

These prices were so in contrast to those asked by other makers that in one case the remark was made: "After having my eyes opened, I am certain that were I about to buy another car, I should be influenced very largely by the economy of upkeep which this maker brings about by the reasonable prices asked for his extra parts."

The advantage to the maker who is in a position to supply replacements at very low figures needs no comment. The ability to quote advantageous prices on such parts is an index of close methods of interchangeable production which in itself is a good advertisement of careful construction of the finished car. The successful marketing of such a product should constitute a useful weapon of publicity and it is surprising that those makers who are in a position to do so have not made more capital of it.

As the cauldron of national politics begins to bubble, preparatory to its imminent seething, the gravest anxiety rests on the respective campaign managers as to which banner the Professional Chauffeurs Club of America will choose as a standard under which to carry out its resolution to "take an active and energetic part in the coming campaign for the election of a president of the United States." Inasmuch as the club has decided that "there hardly is any other collection of individuals that can do more to bring about the election of a president" the political situation is peculiarly intense until the presidential candidates and the public can learn which way the cat is going to jump, and whether the club members will lean to Labor, of which they are part, or to Capital, on whose prosperity they are exceptionally dependent. That candidate who first espouses the club's "platform" for the abolition of speed traps and the removal of justices of the peace whose minds are on the bias, will have the first call on the privilege of moving his household effects into the White House, despite the constitutional prohibitions on his meddling with the purely state and municipal matters that the chauffeur president-selectors so gravely offer as national issues.

COMING EVENTS

Sept. 1, 2, 3, and 4, Chicago, Ill.—Chicago Motor Club's postponed 1,000-mile reliability run.

September 5-9, Los Angeles, Cal.—Automobile Dealers Association's reliability run to San Francisco.

Sept. 7, Columbus, Ohio.—Columbus Automobile Club's race meet.

September 7, Lowell, Mass.—Lowell Automobile Club's 200 miles road race, on Merrimac Valley boulevard.

September 7, Columbus, Ohio.—Columbus Automobile Club's race meet.

September 7-12, Hartford, Conn.—Connecticut State Fair Association's outdoor show and grand circuit races at Charter Oak Park.

September 11, Springfield, Mass.—Springfield Automobile Club's hill climb on Wilbraham hill.

September 12, Louisville, Ky.—Louisville Automobile Club's race meet at Churchill Downs.

September 14, Chicago, Ill.—Chicago Motor Club's annual economy run.

September 20, San Francisco, Cal.—Olympic Athletic Club's race meet at Tanforan Park.

September 23-24, Boston, Mass.—Bay State Automobile Association's 24 hours endurance run, Boston to Bretton Woods, N. H.

October 6-9, Chicago, Ill.—Chicago Motor Club's 1,000 miles reliability run.

October 7, Philadelphia, Pa.—Quaker City Motor Club's 200 miles road race, Fairmount Park.

October 10, Long Island—Elimination trials for Vanderbilt cup contest.

October 24, Long Island.—Vanderbilt cup contest.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles outlaw race for foreign cars.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show in Madison Square Garden.

January 23-30, Philadelphia, Pa.—Philadelphia Automobile Trade Association's annual show.

February 6-13, Chicago, Ill.—National Association of Automobile Manufacturers' show, Coliseum.

February 27-March 6, Hartford, Conn.—Automobile Dealers Association's annual show.

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CLIMBING THE ALGONQUIN HUMPS

Good Contests in Chicago's Postponed Meet —Winners by the Watch and Winners by Mathematics.

Scratch the civic pride of a Chicagoan and he will proudly declare that Chicago never does anything by halves—not even in respect to automobile hill climbing contests. While other cities have been content that one hill should suffice for a contest, Chicago, that is, the Chicago Motor Club, last year set the fashion of using two different grades to decide results, which were arrived at by intermixing sport and mathematics.



VIEW OF A SINUOUS ROAD ON PERRY HILL

No other organization saw fit to follow the fashion, but the fact did not discourage the Chicago club, and it again tried the double dose on Friday last, 19th inst., rain having caused a postponement from June last. As Chicago itself is as mountainous as a ball room floor it was necessary to journey to the little town of Algonquin, Ill., in order to find something resembling a hill. There are two of them there, both short and fairly steep—Perry's hill and Phillips's hill, as they are locally known.

The contest was an all-day affair. The morning "matinee" occurred on Perry's and the afternoon performance on Phillips', and the shades of night were falling fast before anyone knew who was who or what was what. For being run on the mathematical plan, it was not until the wise men with nimble pencils had multiplied, subtracted and divided and otherwise indulged in mental gymnastics that the winners had evolved. This sort of contest carries pleasure even to the many losers. The victory is not always to the swift, and as a result, though the swift may not figure at the top of the mathematicians' tables, they nevertheless may shout from the house tops and in the advertising columns: "We didn't win, but we made the fastest time on Phillips' hill'—or on Perry's hill, as the case may be, all of which is so very enlightening to the great green public that it well may be pardoned for scratching its head.

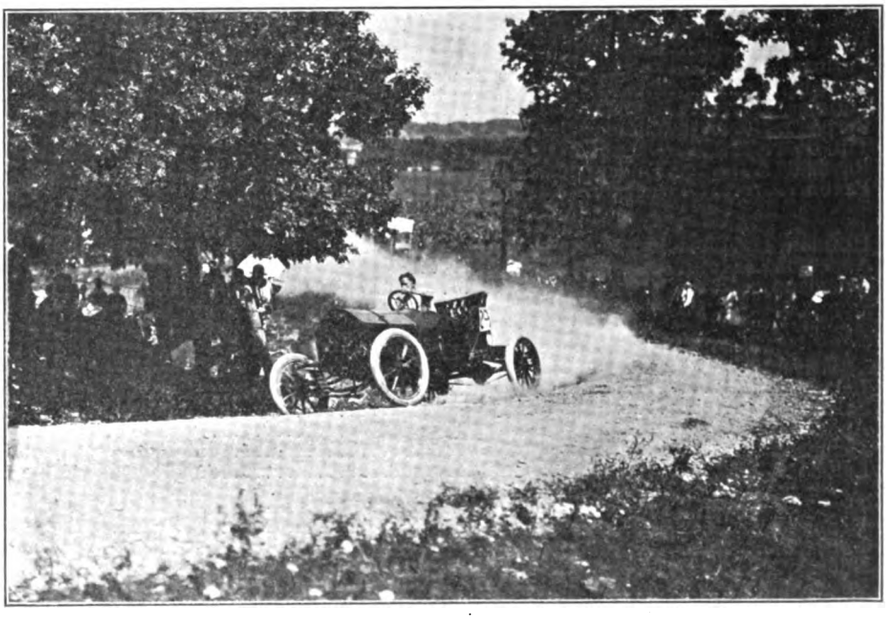
The time of each ascent on each hill was recorded separately, and from these marks the winners were determined in accordance with a formula adopted by the club, which called for a multiplication of the average A. M. and P. M. time, by the piston area, and a division of this result by the weight of the car and driver. Fast time was made in the various classes, although, according to the formula, first place did not necessarily go to the fastest car in every instance. Following the first five events, there were two free-for-alls, the winners of the latter being determined by time alone.

Records for the hills commenced to go, when in the first event, which was for motor buggies, De Launty beat the record of last year by 23 seconds, with his Bendix, although when the percentage was calculated, first place went to Renegar driving a Holzman. In Class B, for light cars with a piston area less than 50 square inches, Lobdell scored decisively at the wheel of a Brush runabout.

Drivers McLean and Miller made good in the next two events, the former in an Apperson making the best percentage of the day in any of the events under the formula. In the class calling for an area of more than 90 square inches, Hoffman was an easy winner in his Pierce mount. In this event, George Salzman, at the wheel of the Thomas "Six," made a showing on Perry's hill when he sent her up the quarter mile 8 per cent. grade in 25⅗ seconds.

Frank Leland was the star of the day when he shot his Stearns "Six" over Phillips' hill in the first free-for-all event at a clip less than a mile a minute. He splintered the record of 33⅕ seconds for the half-mile grade, when he covered it in 0:29⅗, and won the special silver trophy offered by the citizens of Algonquin. In this ascent, Salzman tied with him on the Perry slope, covering it in 24⅗ seconds.

In the second free-for-all, Al Dennison cleaned things up with a Knox, his fast time for the two hills being 0:24⅕ and 0:31. A. W. Greiner, an amateur, made good time in the morning, although he had no one to compete with him in his class.



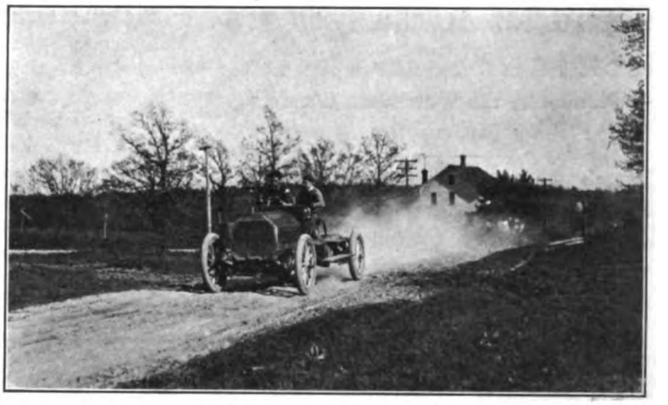
ARTHUR GREINER (THOMAS-DETROIT) WINNING AMATEUR EVENT

Reckless driving by one contestant in both morning and afternoon events injured three people. C. D. Paxon lost control of

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FRANK LELAND (STEARNS) MAKING BEST TIME



PAUL HOFFMAN (PIERCE) AT WINNING SPEED

DIVISION 1.

Class A—Motor Buggies.

Pos.	Driver.	Car.	Time Perry hill.	Time Phillips hill.	A.M. per-centage.	P.M. per-centage.	Total pct.
1	Renegar	Holsman	0:48⅕	1:19⅗	3.030	5.020	8.000
2	Fairbrother	Holsman	0:53⅕	1:25⅘	3.220	5.199	8.419
3	Le Launty	Bendix	0:42⅘	1:10⅘	3.440	5.630	9.034
4	Spanberg	Kiblinger	0:51⅗	1:32⅘	3.362	6.020	9.380
5	McIntyre	Kiblinger	0:55⅕	1:36⅗	3.640	6.360	10,000
6	Scott	Black	0:54⅗	1:16⅗	5.642	7.910	13.552

Class B—Piston Area Under 50 Square Inches.

1	Lobdell	Brush	1:26	2:06	2.870	4.230	7.100
2	Burman	Buick	0:32⅗	0:46⅕	3.039	4.280	7.319
3	Lorimer	Chalmers-Detroit	0:33⅕	0:42	3.325	4.200	7.525
4	Scheifler	Jackson	0:39	0:59⅗	3.350	5.730	9.480
5	Thorne	Moline	0:37⅘	1:01⅗	3.757	6.136	9.893
6	Holmes	Jackson	1:23	1:13⅗	4.688	5.443	10.131

Class C—Piston Area Over 50 Square Inches.

1	McLean	Apperson	0:30⅕	0:40	2.760	3.660	6.420
2	Bird	Corbin	0:26⅘	0:35	3.081	4.110	7.191
3	Smith	Maxwell	0:32⅗	0:44⅘	3.405	4.680	8.085
4	Brown	Wayne	0:28⅕	0:36⅗	3.220	4.800	8.520
5	Halbert	Grout	0:38⅖	0:51⅘	4.064	5.483	9.547
6	Van Dervoort	Moline	0:46	0:42⅗	5.370	4.960	10.330

Class D—Piston Area Over 65 and Under 90 Square Inches.

1	Miller	Cleveland	0:27⅗	0:38⅕	3.210	4.520	7.730
2	Burman	Buick	0:26⅘	0:35⅘	3.490	4.370	7.860
3	Engleback	Stoddard-Dayton	0:26⅘	0:36⅖	3.360	4.560	7.920
4	Lorimer	Thomas-Detroit	0:24⅘	0:35	3.408	4.810	8.218
5	Burns	Thomas-Detroit	0:25	0:33⅗	3.580	4.730	8.310
6	Tilt	Diamond T.	0:28⅕	0:37	3.680	4.820	8.500
7	Rayfield	Tincher	0:26⅗	0:36⅖	4.000	5.480	9.480
8	*Paxon	Jackson	0:26⅕	3:67			

Class E—Piston Area Over 90 Inches.

1	Hofman	Pierce-Arrow	0:25⅘	0:34⅕	3.590	4.510	8.110
2	Apperson	Apperson	0:24⅕	0:31	4.060	5.360	9.420
3	Salzmann	Thomas Flyer	0:25⅖	0:30⅗	5.160	6.210	11.370

DIVISION 2.

Class F—Free-for-All.

Pos.	Driver.	Car.	Perryhill.	Phillips hill.
1	Leland	Stearns "6"	0:24⅗	0:29⅖
2	Salzmann	Thomas Flyer "6"	0:24⅗	0:30
3	Apperson	Apperson "Big Dick"	0:26⅖	0:31
4	Dennison	Knox "6"	0:26⅕	0:31⅖
5	Leland	Stearns "4"	0:26⅖	0:36

Class G—Free-fof-All.

1	Dennison	Knox	0:24⅕	0:31
2	Lorimer	Thomas-Detroit, "Blue-Bird"	0:25⅕	0:31⅘
3	Burns	Thomas-Detroit	0:25⅖	0:33
4	Rayfield	Tincher	0:27	0:35⅗
5	Englebeck	Stoddard-Dayton	0:28⅕	0:35
6	Miller	Stoddard-Dayton	0:28	0:35⅗
7	Tilt	Diamond T.	0:27⅘	0:36⅘
8	Burman	Buick	0:41⅗	0:46⅘
*9	Miller	Cleveland	0:27⅘	

AMATEUR DIVISION.

A. W. Greiner	Chalmers-Detroit	0:26⅗
A. W. Greiner	Chalmers-Detroit	0:25

(Made morning ascent only and had no competitors.)
* Did not finish.

his mount during the early trials on Perry's hill and when the car reached the summit at high speed, it left the road and slewed into an official tent, barely missing several of the judges. Later in the day, the same driver let his car get away from him while rounding a dangerous curve. The machine charged the large crowd, when it plunged into the roadside, injuring three persons.

Charles W. Van Sickle, while riding a 7 horsepower Indian motorcycle up the incline at a speed of 65 miles an hour, struck a stone and was thrown about 25 feet. Luckily, he picked out a soft spot and landed unhurt. The summaries are given in the accompanying table.

Mechanical Efficiency Test Scheduled.

On September 16 and 17, there will be held a mechanical efficiency test on Long Island, under the auspices of the New York Automobile Trade Association. Arrangements have been made with this body and plans formulated, the actual direction of affairs being in the hands of W. J. Morgan. The contest will start early in the morning from New York and run to Montauk Point, with a halt for luncheon at Blue Point. From Montauk, the night stop, the contestants will, in the morning, return to New York by a different route.

The idea is to hold a price class run, for stock cars, dividing them according to list prices and establishing checking controls along the line. Strict observation of cars' performances will be kept and no repairs, aside from ordinary adjustments will be permitted. There will be two distinct general classes: one for manufacturers and dealers, and the other for amateur owners, driving their cars. There will be eight divisions as regards prices, ranging from $850 to $4,000. A special taxicab division may also be added. Prizes will be awarded to first, second and third places in each class.

Tourists in Turkey are permitted by the customs officials to take six months to pass through the country. On entry, a sum varying from $110 to $176 is levied on a machine. This amount, less 1 per cent. "transit duty," is returned if the car leaves the country within the six months.

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WELCOME TO GLOBE CIRCLING CAR

Gotham Hails Victorious American Entry in New York-Paris Contest—Schuster Tells Story of the Struggle.

It certainly was a glorious reception that was tendered to the three Georges of the New York-Paris Thomas car crew when they arrived home on Saturday, August 15. George Schuster, who drove the victorious car from San Francisco, his mechanician, George Miller and "War Correspondent" George McAdam, were mighty glad to get back to America again and shake hands with E. R. Thomas, Harry S. Houpt, J. E. Bowles, et al.

As soon as the conquering heroes descended the gang plank of the steamer La Lorraine, a string of Thomas cars and one Zust machine, escorted them to the new custom house, where after some delay, the red tape incidental to the clearing of the winning car was accomplished, although the machine itself could not be unloaded from the steamer until the following Monday. From the Custom House, the caravan proceeded to the Stock Exchange. The drivers were introduced to a number of the foremost financiers in the office of A. O. Brown, and from there the party drove through Wall street and up Broadway amid a constant cheering, to the Automobile Club of America, where a luncheon was served.

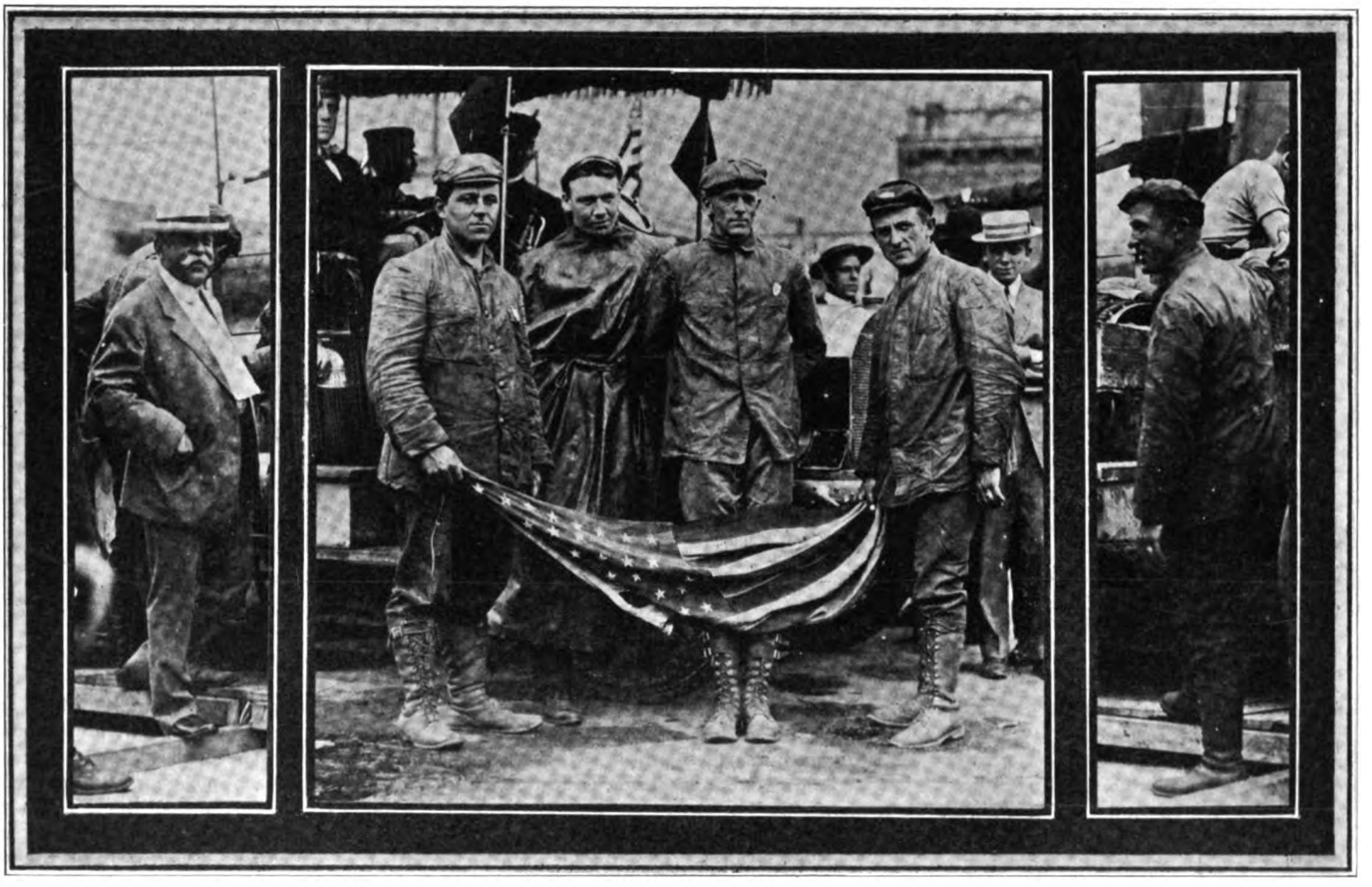
Here Robert Lee Morrell made the formal address of welcome. He praised Mr. Thomas for his sportsmanlike attitude in entering the only American car in the New York-Paris event, and also in the Grand Prix in France. Mr. Thomas replied that while at first he did not take the matter seriously, when the time came, he could not bear to see four foreign flags in a race starting across the United States without the Stars and Stripes. He frankly believed at that time that none of the cars would ever complete the trip. He had been told that it would be impossible for the contestants to cross the State of Wyoming, let alone Siberia, and he was willing to believe it; nevertheless he was confident that an American made car could "size up" with foreigners and go as far as the rest. Later Mr. Thomas, who was extremely modest in mentioning the name of his car, announced that it would be driven back to Buffalo and after a little overhauling would be entered in the 24 hours race at Brighton Beach on September 18th.

Schuster, when called upon, showed that he was more of a driver than an orator, which he admitted; nevertheless he made an interesting little speech, praising Mr. Thomas, Montague Roberts, who drove the car from New York to Cheyenne, and the other drivers, Matthewson, Brinker and Miller, who had helped carry the car to victory. He said it would be a great gratification to him to pilot the car into Buffalo, his native city.

Harry Houpt, the Thomas agent in New York, gave all the credit for entering the car and getting Mr. Thomas interested in the venture, to John E. Bowles, of the Houpt company, who wanted to enter a Thomas car in the race from the very outset.

After George Miller, the smiling mechanician of the crew, had paid a great tribute to his fellow-sufferers in the race and a few more prominent automobilists had said a few words, it was announced that Jefferson De Mont Thompson was ready to award Schuster the $1,000 cash for carrying the American flag around the world. Plans for a banquet this (Thursday) evening, at the Automobile Club of America and a trip to Oyster Bay to introduce the drivers to President Roosevelt next Saturday, were also announced.

But on Monday afternoon, this week, the car itself came into its glory. Preceded by



E. R. THOMAS
Who Made the Journey Possible

MILLER, ROBERTS, McADAM AND SCHUSTER
Three of the Men Who Drove the Car and the Correspondent

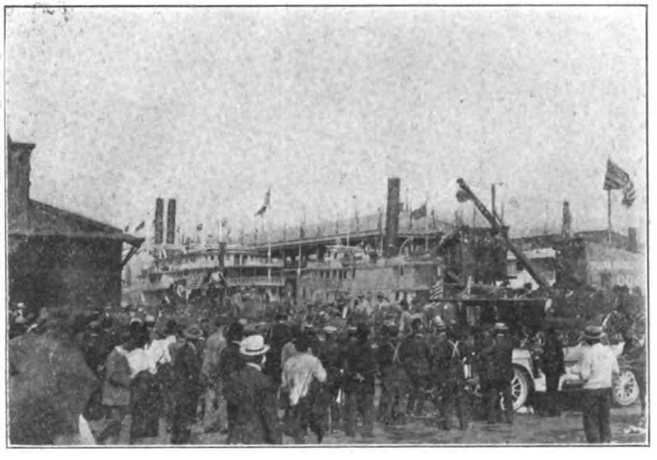
GEORGE SCHUSTER
Who Drove the Car from Seattle

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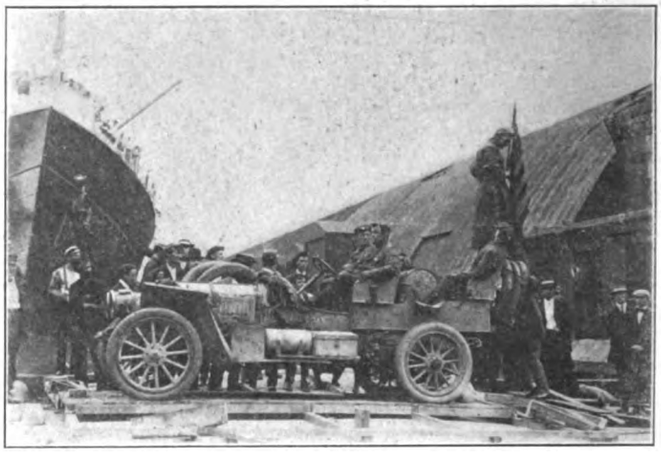
a band playing patriotic airs in a sight-seeing automobile, the doughty battered car, with the flag that it had carried around the globe, led the procession of 50 decorated cars to the City Hall. Schuster was at the wheel, Montague Roberts, Miller and McAdams, being the other occupants, while the following machines carried some of the foremost men in motordom.

The parade made a stop in City Hall Park and the Thomas crew were taken into Acting Mayor McGowan's office and introduced. After making a short speech to the crew, the acting mayor came out and seated himself at the wheel of the victorious car, smiling blandly and praising the wonderful American achievement, the cameras clicking meanwhile.

The procession then streamed up Broadway to the Houpt headquarters, the band banging out inspiring music and the mud-covered winner making more music with its noisy cylinders firing just as efficiently as the day it left Times Square, six months ago.



WELCOMING CROWD AT THE PIER



PREPARING FOR TRIUMPHAL PARADE

On February 12, when this race began, there were six starters, including the American, one German, one Italian and three French cars. One French car, Siziare et Naudin, retired after running a hundred miles on the road; the second French car, the Moto Bloc, ran 1,300 miles to Clinton, Iowa, and then gave up the contest; the third French car, the De Dion, made the trip across the United States to San Francisco, shipped to Seattle, and thence to Japan, thence across Japan, but retired at Vladivostok, while the German Protos car, through a "misunderstanding," was shipped by freight from Idaho to Seattle, being then 1,100 miles and 23 days in time behind the American car.

After the withdrawal of the De Dion car the American, Italian and German cars were left to cross Asia. The Thomas took the lead at the start, but at Pogranitchnaya stripped a driving gear and was delayed five days in repairing the damage. The Protos meantime continued, and, although the Thomas crew made valiant efforts to overtake the Germans, the Protos led into Chita by two days and won the $1,000 cup offered by the Trans-Siberian Railroad for the car arriving first at Chita. The Americans continued in pursuit of the Germans and overtook them on the shores of Lake Baikal, but were unable to load on the boat which carried the Germans across the lake, and were compelled to wait 24 hours for the next boat. A lead was obtained through Irkutsk Kansk and through Krasnojrsk, but they were overtaken at Tomsk, 3,408 miles from Vladivostok. The Thomas led the way from then until it crossed the Russian border, where it again stripped a gear and was delayed five days, allowing the Germans once more to take the lead and show the way into Moscow and St. Petersburg, capturing the second $1,000 prize offered by the Russian Automobile Club. Over the splendid roads of Europe it was an easy matter for the Germans to maintain this advantage into Berlin and Paris. They were two days ahead of the Thomas in Berlin, finishing in Paris the day that the American car reached the Kaiser's capital. The Thomas, with 30 days allowance, took four days for the final run from Berlin to Paris, winning the race by 26 days.

The record of the cars is interesting; it shows the Thomas covered 3,936 miles in America in 42 days, and 8,280 miles in Asia and Europe in 70 days, a total of 12,116 miles in 112 days. The Protos covered 2,607 miles in America in 65 days, and 8,280 in Asia and Europe in 65 days, making a total of 10,887 in 130 days. These figures best illustrate the relative merits of the performance.

In speaking of the remarkable contest Schuster said:

"The trip was a most remarkable one from start to finish, but none of the three of us would undertake it again for any consideration," he said. "No one has any idea of the strain under which we labored as we sought to overtake the flying Protos or rushed on to maintain the lead which we had regained. When we stopped for rest our sleep was broken with nightmares of the other car overhauling and passing up or leaving us far behind and we were driven to keep on the road for practically 20 hours out of 24. This, continued for nine weeks, was a terrific strain, but we went through it successfully and can look back on it as an experience of a lifetime.

"When we left San Francisco the Protos was not yet at Ogden, Utah, where, the rough journey across the States having disabled it, it was shipped to Seattle. We had a comfortable lead on the De Dion and Zust, and on that account, after reaching Seattle, we went ahead to Valdez in order to see for ourselves what the conditions were in Alaska. It was decided to abandon the arctic portion of the journey, order coming that the cars should proceed via Vladivostok, through Asia and Europe to Paris.

"Japan was a picnic, with a few scares thrown in when the narrow, flimsy bamboo bridges had to be crossed, and some strenuous calls for the low gear on the mountain passages. Nevertheless, the kindly hospitality of the natives caused forgetfulness of all the difficulties, leaving only the memory of the good time spent in crossing the land of the little brown man.

"The trouble began when Vladivostok was left behind. The roads were not any worse than in America, but when at home we could always count on food and a clean hotel at the end of a journey. In Manchuria and Siberia there was neither, the hotels being bug-ridden hovels that made one glad to sleep on the veranda, in stables, in wagons, on the ground—anywhere, in fact, but under the roof of a house. Food was as bad, the staple article of diet apparently being a coarse black bread, the crust of which could be eaten, but the inside of which was absolutely indigestible. Eggs could be obtained sometimes, tea always, coffee never.

"Rain accompanied us when we left Vladivostok and remained with us for 18 days in succession. At that time we had not taken to the railroad track, but were endeavoring to push along over the soft, boggy country. On the first day we covered 12 miles, the second about the same distance,

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and the third a little less. Before we were many miles out of town we overtook the Protos, stuck in the mud, pulled them out by means of a tow line, and left them.

"After three days' traveling we reached Nikolsk, went on the railroad tracks—although permission had not been accorded



ARRIVAL OF PARADE AT THE CITY HALL

—but when 100 versts further on stripped our bevel gear and had to lie up for repairs. The Protos, coming along slower, received our permit for traveling on the track, and in this way saved itself a long grind through the mud. There were places where traveling on the railroad was good; there were other spots where it was so shaky that I thought my teeth would drop out of my head. The ties were not sunk, but each one raised a considerable distance out of the ground and just wide enough apart for the wheels to drop in between them with a thud and be pulled out again with a jerk. Our first accident happened on a curve where the ties were just sufficiently close together to allow both front and back wheels to drop in together and remain locked. In the fearful wrench which the car received the bevel gear was stripped.

After passing Kharbin, in Manchuria, where we left all the clothes excepting those we stood in, with orders that they should be shipped to Paris, we had some rough traveling, during which we stripped the second speed gear. A spare was telegraphed for, and I went back to Kharbin to get it. It failed to arrive, and I returned to the car to find that in the meantime Miller had put in a couple of stumps to replace the missing teeth. With this makeshift repair we continued, after ordering the spare part to be shipped ahead to Omsk.

"Later our repair broke down, and in order to get the spare part I had to travel 658 versts by relays of teams, a journey that was done in four days by changing teams every 90 versts. There was a reason for the hurry, the Protos then being in our rear, but rapidly drawing up. I wished to get back and make the repair before they caught us, but was not able to do it, the car passing me when I was within but a few miles of the end of the return journey. I reached the car at 1 o'clock in the afternoon; at 4 we were away again.

"At Moscow we were held up for one day by repairs to the clutch shaft, and again, after leaving Berlin, lost some hours along the same repair work.

"When Nijni-Novgorod was reached our difficulties practically ended, for we struck roads that in comparison were so good that we imagined we were on feather beds. We had to pay duty entering Germany, and on leaving the country had to visit three different towns before the amount was returned to us. Ten minutes after we got it we had to hand it out to the Belgian authorities, by whom we were reimbursed on the first request. Finally, entering France on our last day's run from Liege, 1,113 francs had again to be deposited as duty on the car. Getting near Paris we missed the road, and instead of the macadam highway had to travel for a considerable distance over rough granite pave, that cut down our speed considerably. Though there are so many roads to Paris, nobody on the route appeared to know which was the good one. Mein Gott in Himmel! It was certainly a race!"

Subsidizing Automobiles for Army Use.

Subsidies for privately owned automobiles that are kept on a "war footing" compose one of the latest phases of Germany's military enterprise. The German War Office announces that it is prepared to enter into negotiations with manufacturers or private owners for subsidizing their vehicles. To persons with cars answering certain requirements and who pledge themselves to maintain the machines in a condition for military service for a period of at least five years, the following subsidies will be granted: A purchase subsidy for each car, payable upon its definite transfer to the military administration, of $1,000; maintenance subsidies for each car for five years, payable at the end of each year, amounting to about $250; a premium for the use of domestic German petroleum or benzine. The first two clauses refer to cars of 30 horsepower.



ACTING MAYOR McGOWAN (AT WHEEL) AND GEORGE SCHUSTER

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LOWELL PLAYS NEUTRALITY GAME

Secures A. A. A. Sanction for Labor Day Race—Fends Off Possible Enmity of A. C. A. Toward Entrants.

When John O. Heinze, president of the Lowell Automobile Club, visited New York a few days ago, in an attempt to secure entries for the Merrimac Valley road race to be held Labor Day, he found that the metropolitan "racing trust," as its press agents now style the several New York dealers, chiefly importers, whom R. L. Morrell and Tom Moore brought together, is anxious to be on both sides of the fence at the same time. Some members of the "trust" wish to compete under the auspices of the A. A. A., and also to curry favor with the A. C. A. As the Lowell race has been sanctioned by the national governing body, the "trust" members suggested to Mr. Heinze that he apply for a guarantee from the A. C. A. that participating drivers would not be barred from future races, run by the local New York club. This he did and, of course, he promptly received the "guarantee."

Following the A. C. A.'s guarantee, several entries were promised for the Lowell event, and Moore was hired to "help things along."

Preparations are being made for oiling the course properly and the grandstand is in course of construction. The race being over a 10 miles circuit and being limited to twelve contestants, is calculated to produce some excitement from the spectators' standpoint.

How Press Agents Earn Their Hire.

In "officially announcing" that Harry S. Houpt has been elected a member of the contest committee of the Automobile Club of America, Mills & Moore, press agents and race promoters in disguise, who apparently have been engaged by the club, this week let it be known that a "racing trust" is "in their midst," and also disclosed how they hope to prove themselves worthy of their hire and to "influence" public opinion. The information was dispensed by Mills & Moore, each of whom is anti-A. A. A. to the backbone, and each of whom has grievances of his own in the form of the following "press sheet" contributed free of charge to the newspapers:

"The fact that the racing trust which controls the Fiat, Stearns, Thomas, Isotta, Allen-Kingston, Renault, and Panhard have decided not to apply to the American Automobile Association for a sanction for the 24 hours race at Brighton Beach, and that the Lowell Club played both ends against the middle in applying for the consent of the contest committee of the Automobile Club of America has caused much discussion among the promoting clubs.

"As the American Automobile Association will be forced to disqualify all entrants and officials at Brighton Beach it will be hard for promoting clubs to get entries for their events unless they resign from the American Automobile Association.

"It is reported that several clubs are desirous of affiliation with the Automobile Club of America. Although the club must be pre-eminent in foreign matters it neither claims nor desires that it shall have any preponderance in the councils of the affiliated automobile clubs."

A. C. A. Issues a Race Resolution.

Following a meeting of the contest committee of the misnamed Automobile Club of America, of New York, this week, the following resolution was reported as having been adopted:

"Pursuant to the agreement adopted at Dieppe by the International Association of Recognized Automobile Clubs it has been resolved that all participants, including the manufacturer, agent, private owner, driver, and mechanician, taking part in any international race in America not sanctioned by the Automobile Club of America will be disqualified from competition in any future races held in this country and abroad."

The resolution, which is specific in its reference to "international races" only, is, of course, in the nature of a stab at the Vanderbilt cup race and although all the paid press agents and the reporters who have been furnished with free admission cards to the New York club's bar, writing room and library, are seeking to make a sensation of it, the resolution is chiefly remarkable as showing that the club still holds true to its foreign inclinations and is striving mightily to fulfill its role as Guardian Extraordinary of Europe's Interests in America.

Why "Racing Trust" Changed Its Title.

The Metropolitan Racing Association, which consists of the several New York dealers and importers whom Bob Morrell and Tom Moore brought together, has dropped "Metropolitan" from its title. Action was taken because the dealers feared that their "racing trust," as their press agent styles the little organization, might be confounded with the fake Metropolitan Automobile Association which consisted of Tom Moore and Mr. Thomas Francis Moore, and which curled up and died after the Motor World turned a searchlight in its direction. Moore's shadow, however, still is behind the "racing trust," whose chief object is to stick in its thumb and pull out more of the plums that are supposed to be in the racing pie. The "trust" believes it best can attain its objects by playing the part of "outlaw" and by promoting "outlaw" races. It doesn't think it requires sanctions from any organization and will make its debut as an "outlaw" organization and as a trouble-breeder generally on the occasion of the meet on the Brighton Beach track, September 18-19.

NINETEEN EVENTS ON THIS CARD

Varied Program from Springfield's Climbfest on Wilbraham Hill—The Course Banked at All Curves.

Nineteen events will constitute the program for the Automobile Club of Springfield's hill climbing contest which will be held at Wilbraham, Mass., on Friday, September 11th. The Wilbraham hill course, which contains some bad turns, has been repaired and the curves banked, and while it is rough enough in spots to insure a lively contest, it is claimed to be one of the best hills for this purpose in New England. The course is 5,280 feet in length, with facilities for a rolling start, and consists of a succession of grades varying from 6 to 23 per cent. The total rise for the measured mile is 453.1 feet, averaging 8.5 per cent., the last quarter dropping from 14.5 to 9.1

The events will be divided into three main classes, to be followed by some special trials. The first class is for gasolene cars, arranged according to horsepower; five different events being scheduled to allow for cars between 15 and 75 horsepower. There also will be a price event, conaestants being divided according to list prices, with six events ranging from $850 to $4,000. The third division of the meet will be forgasolene cars under a piston area classification. Four events, the first for cars under 50 square inches; second, for areas between 50 and 65 square inches; third, from 65 to 90 and the fourth for all cars under 90 square inches.

After these events, which are for stock cars exclusively, have been run off, a trial open to all cars of gasolene power and then an open event for gasolene stock cars, a closed contest for members of the Automobile Club of Springfield, any sort of car eligible, and a second trial for the hill, open to all types and any motive power.

Boosting Good Roads in Utah.

Supplementing a letter campaign to all the voters in Utah, on the subject of good roads and the advantages that everybody would gain by helping along the movement, the Salt Lake Automobile Club has placed an order for 10,000 good roads buttons. The face of the button is made in white enamel with a blue border and the words "Boost for Good Roads" in blue around the edge.

Oldfield the Star at Goshen Meet.

Barney Oldfield was the start of a meet held at Elkhart, Ind., when he set up a new though not remarkable record for the track. Oldfield's previous half mile record for the half mile oval was 1:17¼, and on Saturday he brought it down a hair's breadth to 1:17⅖. Later in the afternoon he defeated Charles Soule in the "Red Spider in a two miles race.

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24 HOURS ENDURANCE CONTEST

Bay State Automobile Association Frames Novel Conditions—Run from Boston to Bretton Woods Scheduled.

Boston's big motoring organization the Bay State Automobile Association, has announced a novel 24 hours endurance contest from Boston to Bretton Woods, N. H., on September 23, plans for which have been definitely laid out. The rules framed by the committee in charge, differ to some extent from those followed in the usual style of endurance runs and have been so designed that cars which pull through the run of 375 miles and finish with perfect scores, "will demonstrate their reliability for touring purposes to the satisfaction of any reasonable person."

Contesting cars are to leave Boston at 10 a. m. on September 23, and will be run for 24 hours, not including the time allowed for stops for meals. Motors cannot be stopped without penalization, except at these points, and during the stops no work on cars will be permitted. Changes of drivers will be allowed at controls, if two drivers are designated by the entrant. It is required that observers appointed shall be practical drivers of cars themselves and not "amateurs" lacking knowledge of motors, as was the case with a few of the Glidden Tour observers. The cars will be in two divisions: Class A to include all touring cars, and Class B, the runabouts and roadsters. For every minute or fraction thereof, spent in making adjustments, repairs, or replacements, a penalty of one point will be made. No penalty shall be inflicted for work of any kind done on tires and tire chains, provided the engine is kept running—in case of a steamer, the pilot light may be extinguished while the gasolene supply is being replenished—but the time so spent shall not be deducted from the running time allowed between the various controls. Contestants will be allowed, without penalization, to fill with water, gasolene and lubricant, to turn up grease cups and to oil the machinery, but everything else done on the car aside from the normal operations of starting and of operating, shall involve penalties as above stated. For every minute or fraction thereof during which a motor is stopped, except at Bretton Woods and luncheon points, there will be a penalty of one point. Besides a penalty for replacements on a time basis, there will also be a penalty of a point for each dollar of the catalogue price of the new part. The observers are also expected to make note of other competing cars which may be stopped along the road.

From start to finish every machine must run on a schedule, with penalties for arriving at controls ahead of or behind time. The schedule will allow an average speed between 15 and 16 miles an hour. Cars which lose time at one control cannot make it up going to the next, but must drop back in the line and keep to their scheduled speed.

A suitable certificate will be awarded to each car which finishes with a perfect score. In the event of a single car finishing the run with less penalization than any other car in its class it will be awarded a silver trophy.

A special prize, to be known as the "Observers' award," will be given the operator who, in the opinion of the majority of the observers, makes the most consistent performance, the prize being a gold watch, suitably engraved. Observers will report their choice immediately upon their arrival at the final control.

Success of the Multiple Efficiency Run.

The "multiple efficiency run," recently devised by the Brush Runabout Co., of Detroit, Mich., to introduce the new Model B Brush runabout to the public and to show the car's ability in road work, is being finished this week. Car No. 1, after spending Thursday and Friday of last week in and around New York City, went leisurely to Boston, its final destination, arriving there Monday afternoon. No. 3 got to its destination, Kansas City, a week ago, several days ahead of its schedule. Less time was given to demonstrations during the latter half of the trip than had originally been calculated upon, owing to later arrangements made for it to continue on to Denver, where Mrs. F. A. Trinkle, wife of the Denver agent for the car, will endeavor to drive it up to the top of Pike's Peak.

Cars Nos. 2 and 4, bound for Washington and Minneapolis, respectively, have gone more slowly, owing to a greater number of demonstrations and stops, and the delivery car, No. 5, is nearing Detroit on its homeward trip, after visiting Chicago and Milwaukee and a number of towns in Wisconsin and Illinois. Many of the smaller localities have turned out en masse to welcome the incoming cars with celebrations and entertainments. No very exciting incidents have come to the cars except one slide off an embankment and one case of having the tires slashed by a rowdy in a crowd. The only mechanical trouble reported for all the cars in their journeying has been one defective disc in No. 3's clutch. The interest manifested by the public, particularly in the lesser cities and towns, has justified the company's unique plan of introducing the new model.

Paris to Build Underground Crossings.

Operations are about to be commenced in Paris upon a system of underground crossings at street intersections, the object being to reduce the delays and dangers to traffic and pedestrians incident to the congestion of the crowded sections. The first tunnel is to be installed under the Avenue des Champs Elysees, and the second at the Gare Saint Lazare.

PHILADELPHIA PLANS BIG RACE

Two Hundred Miles Contest for Founders' Day—Permission Given for Use of Fairmount Park Roads.

Philadelphia is to have a 200 miles road race on or about October 7, under the auspices of the Quaker City Motor Club. The meet is to be engineered by the firm of "Jay Kay—Mills & More—Tom; Publicity and Promoting," which is the correct manner of writing this concern's name. Fairmount Park, through which a ten-mile course is to be laid out, will be the scene of the contest and according to the originators of the scheme, the event is designed to "rival of the Vanderbile cup race," which event Messrs. Miller and Moore are using their best efforts to belittle.

The use of the roads has been requested for daily practice one week before the race, from daylight until 7:30 a. m.

In order to dodge unpleasant friction with either the A. A. A. or the A. C. A., the Quaker City Motor Club has decided to "straddle" and will request a sanction from both the American Automobile Association and the Automobile Club of America. At present there is some question in the minds of the Philadelphians as to whether the three A's will be willing to grant a sanction, for this race, in view of the Vanderbilt contest being so near that date. Should there be a refusal, it is rumored that the promoters will go ahead and attempt to hold the Fairmount Park event as an outlaw meet under A. C. A. sanction, in which case there will be some merry trouble in securing entries.

When the Quaker City Motor Club took up the scheme of holding a road race during Founders' Week, application for a course in Fairmount Park was presented to the Park Commissioners. It seemed a bold move, but aided by Mayor Reyburn and others, the club obtained the desired permission.

The route selected covers ten miles of the finest roads, varying from 40 to 80 feet in width. It is planned to cover this course 20 times. The high bluffs on the river front make a fine natural grandstand, while for those who prefer to watch a score board, a grandstand with a seating capacity of 10,000 will be provided.

Automobile Transport Corps for Army.

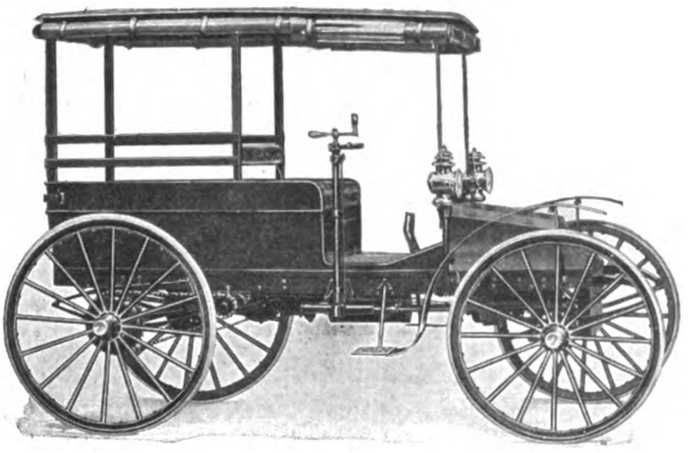
After extensive experiments lasting for nearly two years Germany has decided that automobiles may be made to render important service in connection with the army. The budget commission of the German government has decided to report favorably on a bill to authorize a fund of about $500,000 to provide for the organization of an automobile transport corps to be incorporated in the army.

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MOTOR DELIVERY ON HIGH WHEELS

Details of Latest Reliable-Dayton—Water-Cooled Motor and Sliding Gear Among Its Noteworthy Features.

Because of the growing strength of the demand for high-wheeled motor buggies, the Reliable-Dayton Motor Car Co., Chicago, Ill., has undertaken the construction and introduction of a high-wheeled delivery wagon, following in principles of design the other vehicles already produced but differing from them in one or two material points. The vehicle in question, which is known as the type "J," has a net load-carrying capacity of 750 pounds, or that of the ordinary horse-drawn delivery. With its 20 horsepower motor, however, its radius is increased to such an extent, that it may be expected to displace from two to three such vehicles without difficulty, carrying out exactly the same service.



The motor is of double-opposed pattern, hung across the frame in front and covered by a removable hood, as in ordinary motor vehicle practice. The cylinders are 5⅛ by 5 inches, bore and stroke and are water cooled. The valves, which are of unusually large size, are mounted with the cam shaft, on the upper side of the motor. The fly wheel is constructed with fan blades to increase the draught through the radiator which is mounted in front and below the level of the hood. Jump spark and battery ignition—both battery and coil being mounted in a single casing on the dash board—positive feed mechanical lubrication, concentric float feed carburetter and geared water pump complete the engine auxiliaries.

The master clutch is of the contracting band type, the same as is used on the passenger vehicles constructed under the same name, is operated by foot pedal, as in pleasure car practice, and is lined with the popular camel's hair friction material. The change gear group is mounted in a unit housing which also includes the differential gearing and a complete housing for the countershaft which reaches to the side frame members, where two points of support for the system are obtained. The gearing itself is of the progressive sliding gear type, mounted on Hyatt roller and ball bearings and affording two forward speeds and the reverse, with direct drive on the higher gear. Final transmission is by outside chains to each of the rear wheels.

The mechanism of control consists of two pedals, one of which actuates each of the two sets of internal expanding brakes, which are mounted on the rear wheels, and a third for releasing the master clutch. The steering control and motor regulating devices are mounted on a control pillar erected at the right side of the driver's seat, the steering gear being actuated through a T-bar side lever, and rack and pinion connections.

Unusually large wheels are employed, the front pair being 40 inches in diameter, and the drivers, 44 inches in diameter. Both sets are shod with 1¾-inch solid tires. The wheel base is 92 inches, the tread, 56 inches, or 60 inches, according to the option of the purchaser. Semi-elliptical springs are employed in front, and full elliptics in the rear, the lengths of the two sets being 36 inches. The body floor area is something over 10 square feet, the width at the bottom being 35 inches, and at the top of the side panels, 46 inches; while the distance from the back of the seat to the tail gate is 44 inches. The total vehicle weight is 1,850 pounds, and the guaranteed load capacity, 750 pounds. In this connection the makers are at some pains to explain that the vehicle is not suitable for trucking purposes, being designed solely for light delivery duty. On that account its strength and speed ratio are figured on a very different basis from what would be the case were heavier duty contemplated.

The form of the ordinary road wagon gives a considerable advantage to the salesman. The class for whom such vehicles are intended are averse to the mechanical problem offered by the full-fledged car.

ORIGIN OF THE PLANETARY GEAR

Principles of James Watt's Invention in Modern Application—Method by Which It is Operated.

It is a curious circumstance that despite the generality of its use, comparatively few motorists thoroughly understand the method of operation of the so-called planetary gear. As a matter of fact, however, it is one of the simplest forms of power transmission imaginable as well as a very old one. Probably it is not commonly known that the inventor of the planetary gear was the inventor of the steam engine, or at least, the one to whom its invention is usually ascribed. As a matter of fact, James Watt, in the famous group of patents taken out during the interval 1781-1785, and covering many of the principles still employed in steam engineering, also protected the invention of the sun-and-planet system of gearing.

Primarily this arrangement comprises merely a central gear mounted on the driving shaft in mesh with a second gear which is carried by an arm loosely mounted in line with the main shaft so that it may swing around it like a crank. A third, and internal gear is mounted on a second shaft in the same axial line, and is of such a diameter as to mesh with the second or planet gear. Three combinations of motion are obtainable with such a system. By clamping all three gears so that they cannot revolve with relation to one another, the system turns as a single part, affording what is known in automobile parlence as the high gear. If the arm carrying the planet gear revolves, the outer or annular gear is made to turn in the opposite direction to the main shaft, and at a slower rate of speed, the planet acting merely as an idler to change the direction of motion. If the annular or internal gear is held fast and the main shaft revolved once more, the planet is made to revolve by the central gear, but as the internal gear with which it is in mesh will not permit it to rotate freely, it is made to travel around inside it exactly as a wheel rolls along a track, the result being that the arm which carries it is turned in the same direction as the main shaft, but at a slower rate of speed.

This principle is employed without change in nearly all forms of planetary transmission, the high, low and reverse speeds being obtained by applying brakes to the planet carriers, the internal gears or the entire group as the case may be. Two or three sets of pinions are commonly employed for greater strength, but the principle is unchanged. In the so-called spur-planetary gears, the internal gear is eliminated while the planet pinion is made to drive a second pinion, on its own shaft, which meshes with a fourth gear on the driven shaft.

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RELEASE FOR EMERGENCY CLUTCH

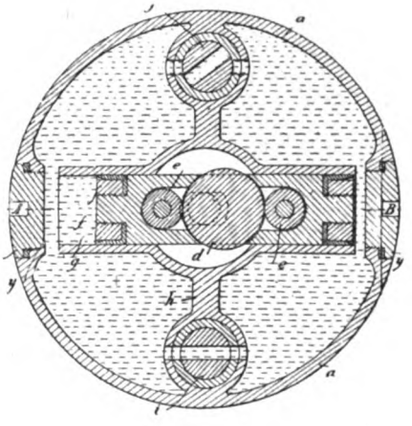
Double Control Provided for in New Hydraulic Device—Novelty Shown in Method of Construction.

Although it seldom happens that the ordinary types of master clutch in common use are the cause of serious trouble as a result of becoming permanently engaged, this possibility always exists in the mind of the novice, and further, may be realized in the event of failure of any of the connecting linkage between the clutch and the controlling pedal. The idea of providing an extra emergency release entirely independent of the regular means of actuating the clutch would be particularly welcome to a certain class of drivers on this account. With either the cone or multiple disc types of clutch, it is not readily to be contrived. In the Smith hydraulic clutch, which is a British product, distinct provision is made with this end in view. In addition to this, the clutch in question presents one or two rather novel features, which are worthy of attention.

The principle employed is the favorite one with designers of hydraulic clutches in general, namely that of the plunger pump. Two pump cylinders are provided enclosing pistons which are actuated by means of a common eccentric from the driving shaft of the transmission. The inner chamber of the fly wheel in which the mechanism is enclosed, is divided into two compartments communication between them being by means of a couple of openings which are regulated by suitable valves. One of the latter is under direct control of the operator and serves the ordinary purposes of engagement and disengagement, thus furnishing the full control of the vehicle. The other is designed to be used entirely as an emergency cutout, and to be opened by pressing a special emergency lever when the regular mechanism is disarranged, or when, for any other reason, it cannot be used.

The detail construction of the device is illustrated in the accompanying sectional view which is taken at right angles to the axis of the propeller shaft. The hollow fly wheel, a, is positively attached to the crank shaft of the engine, and is internally connected with the transmission shaft by means of the plain eccentric, d, which is operated by the pistons, f, carrying antifriction rollers, e-e, at the contact points. The cylinders, g, are formed in the body of the fly wheel, while the annular chamber formed within the remainder of the enclosure is divided into two sections by means of the partition, h, in which are mounted the two rotary valves, i-j, on opposite sides of the crank shaft.

The interior of the casing being filled with a liquid, the motion of the pistons, when the fly wheel revolves and the transmission shaft is at rest, causes a constant flow of the liquid back and forth through one of the valves, i-j. As already stated, one of these valves may be held closed under ordinary circumstances, but may be opened on emergency, while the other is employed to control the motion of the driven portion of the device. As the controlling valve which may be either of the two, is closed, the resistance to the flow of the liquid is increased in proportion to the reduction in area of the opening in the valve. The effect of this is to reduce the motion of the pump plungers or pistons, simultaneously causing a corresponding motion in the transmission shaft. As the valve opening is reduced this is increased until the valve



is entirely closed, when the circulation of the liquid ceases completely and the entire clutch revolves as a unit—subject only to possible slippage of the pump plungers due to leakage. The device is assembled by means of the plugs, y-y, which give access to the interior of the fly wheel and provide means for the ready removal of the plungers.

Connecting Carburetter and Intake.

When connecting the carburetter to the intake manifold of the engine it should not be necessary to "drift" the bolt holes in the flanges of the couplings in order to bring them into line. If the piping is in good order it should go into place without difficulty. If it does not, it is usually the case that the difficulty may be rectified by altering the position of the carburetter on its bracket. Bringing the parts into line by main force and awkwardness is very apt to strain the joints in the piping and cause leaks.

Little Clips that Should be Tight.

The little clips which are frequently mounted on the outer ends of the long leaves of semi-elliptical springs should be kept drawn up tight and firmly secured at all times. Their purpose is to prevent the leaves from being disaligned and to act as a shock absorber by bringing the outer leaves into action on the rebound, as well as by increasing the friction between the leaves.

REPLACING A CLUTCH LEATHER

Difficulties Encountered in the Operation and How They May be Overcome—Making a Pattern for the Blank.

Drivers who have had occasion to replace a leather facing on a plain cone clutch in nearly all cases have had a more or less unpleasant experience unless they have been instructed as to the proper way of going about it. The cutting and marking off of the rivet holes in the leather are bothersome enough in themselves, but unless they are carefully performed they are not a circumstance to the difficulties which are apt to follow when it is attempted to put the clutch into service. With careful treatment, however, it is possible to secure very good results even without previous experience.

The leather selected for the purpose must be clear, straight grained and of absolutely even thickness. These requirements are absolute. In cutting the blank, it is best to scribe a paper pattern first by laying the clutch disc on the floor or bench upon a large sheet of paper and rolling it carefully along without slipping, marking its path with a pencil until one complete revolution has been made. The leather may then be cut with this pattern, a rather liberal allowance being made for possible inaccuracies.

In applying the leather to the cone it is necessary to stretch it perfectly even and without wrinkling. Further, if it is not started perfectly straight—that is, with its sides parallel to the sides of the cone—it will not run true, but will have to be stretched unevenly to prevent it from working off at one side. On this account it is best to secure it at not more than six or seven points around the circumference, stretching it evenly and choosing points which will not cause it to pucker. Afterward the remaining holes may be easily and quickly put through with a small drill, using the cone as a jig.

The rivets must be headed over carefully so as not to bend them, as in that case the tendency would be to draw the leather. Also they must be driven low enough so that they cannot touch the seating in the fly wheel, thereby causing slipping. After the leather is entirely secured in place, it must be gone over carefully with a sharp rasp or a very coarse file, the edges being slightly beveled and any roughnesses in the vicinity of the rivets taken down, so as to leave the surface perfectly smooth. As a final test of accuracy, the clutch may be assembled and the seating in the fly wheel coated with chalk. When the cone is let into place, the chalk will at once indicate any "high spots." These may be removed with the file, after which the process may be repeated until a perfectly even contact is secured all the way perfectly even contact is secured.

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THE HORSEPOWER OF THE HORSE

Churchward Compiles Some Useful Data on the Subject—Where Motor Traction Gains Its Advantage.

Commercial vehicle salesmen constantly are called upon to furnish comparative estimates of the costs of animal and mechanical traction. Generally speaking, it develops in this connection that instead of falling back upon the absolute unit of cost per ton mile of service they are forced to deal with the purely relative and more or less unsatisfactory and misleading statement that the motor vehicle if properly operated may be expected to displace three two-horse teams in the transportation of a given volume of merchandise. For it is a curious fact that even those who are most familiar with the use of horses seldom have accurate knowledge of the costs of horse service in terms of actual paying load hauled and miles covered. Animal transportation, in fact, despite its antiquity is one of the most loosely conducted of modern business undertakings.

For this reason a compilation made by Alex. Churchward, the New York engineer, in connection with his study of motor vehicle work is of particular value. The matter forms a useful addition to the studies of tractive effort and the performance of electric vehicles which already have appeared in these colums from the same source.

That the horsepower of the horse is not the same as the horsepower unit of commercial application is generally conceded. Indeed, there is a tradition to the effect that James Watt, to whom is ascribed the credit of first setting up the contention, purposely set the value of the nominal horsepower at about 50 per cent. above the average output of the normal horse with the laudable intention of increasing the demand for his engine. However that may be it is a fact that few investigators have succeeded in finding horses which could perform the required 33,000 foot pounds of work per minute, and continue to do so except for very brief intervals of time.

According to Rennie, the average work of horses, is 22,000 foot pounds per minute, or two-thirds of the nominal amount of the standard unit. Haswell, however, is authority for the statement that the greatest mechanical effort of an ordinary horse when traveling at 2½ miles per hour is equal to a tractive force of 150 pounds, exerted for 8 hours per day. This reduces to the average rate of 33,000 foot pounds per minute. The more satisfactory method of rating by means of ton miles of duty gives results from which the cost of such service may be computed directly.

From a French experimenter comes the statement that with average conditions of macadam and asphalt, the normal horse can draw at the rate of 2.13 ton miles per hour in winter, and 2.7 ton miles per hour in summer. The average results obtained with the famous Flemish horses of the north of France are 21.82 ton miles per day in winter, and 27.82 ton miles per day in summer, the discrepancy between the results obtainable in the two instances being due to the increased difficulty experienced by the animal in obtaining a good footing on bad roads, perhaps quite as much as on the additional tractive effort required to draw the load over soft ground. From the results of exhaustive tests made at Bedford, England, it was determined that a good horse can draw 1 ton at an average rate of speed of 2½ miles per hour for 10 to 12 hours per day.

When it is attempted to increase the rate at which the work is done, the effect upon the animals, and so the expense is found to increase at an astonishingly rapid rate. Thus, if the cost of transporting one ton of merchandise at the rate of 3 miles per hour be considered 1, it has been proved that at 4.30 miles per hour it is 2, or just double the cost for hauling the same load at about two-thirds the speed.

Another way of considering the same principle is by comparing the possible work of horses in hauling loads both on rails and on hard macadam, at varying rates of speed and for the different lengths of time during which the required amount of effort may be sustained. Results obtained in this way show that the amount of load carried is roughly in inverse proportion to the speed, that is to say that only half as much load can be carried at a given speed as could be carried were the speed only half as great. The accompanying table gives a complete comparison arranged on this basis.

Speed in miles per hour.	Duration of work hours.	On rails, tons.	Macadam, hard, tons.
3.5	11.5	115	14
3	8	92	12
4	4.5	72	9
5	2.9	57	7.2
6	2	48	6
7	1.5	41	5.1
8	1.125	36	4.5
10	.75	28.8	3.6

Coming directly to the tractive effort exerted by the horse, from which an absolute comparison with the work of the motor vehicle may be obtained, it has been found to vary from 300 pounds and over down to 40 pounds, the amount varying with the speed and the length of time during which the effort is exerted. In the following table, two sets of results are compared, one being for efforts exerted at the speeds named for periods of ten hours, or during the whole of a regular working day, and the other, which is credited to Molesworth, for periods of ordinary and short duration. For the sake of comparison they are placed side by side as also casting some light on the probable decrease in the power of the horse when his work is spread over a period of several hours, or to put it another way, as showing the power gained where frequent rest periods are injected into the working period.

Miles per hour.	Tractive effort for 10 hours per day.	Tractive effort for short periods (Molesworth).
.75	330	...
1	250	...
1.5	165	...
2	125	166
2.5	100	...
3	82	125
3.5	70	104
4	62	83
4.5	...	62
5	...	41

The average tractive effort of the commercial motor vehicle is, according to Mr. Churchward's own determinations, somewhere between 25 and 40 pounds per ton on good city streets. For every 1 per cent. grade, 20 pounds per ton must be added to this amount. Comparison between the tractive efforts required on roads of various sorts shows an astonishing increase in the power required for propulsion, which, of course, is the same for a given load, regardless of the source from which the power is derived. Where for asphalt, it may be taken as ranging from 25 to 30 pounds per ton, on macadam roads it ranges from 35 to 60 pounds, and on common earth roads, from 50 to 200 pounds per ton. These considerations are seldom applied to animal traction service, since it is customary to expect the driver to get what work he can out of the horses, and to ignore the effect of highway conditions as having a direct influence upon the life and performance of the animal.

Another factor which is commonly ignored in considering the cost of animal traction, but which is shown by the study of the motor vehicle to be of considerable importance in this connection, is the effect of a number of stops upon the total power output required to transport a given load. Thus, in a previous article from the same source, it was shown that 10 stops per mile increase the necessary tractive effort by 28 per cent. Similarly, 5 stops per mile were shown to increase it no less than 16 per cent. Hence, in animal traction service where frequent stops are required, as for instance the delivery work, it is plain to see that the power output of the beast must be increased in the same proportion, so that increasing the number of stops is roughly equivalent to increasing the mileage.

Though no direct figures are obtainable in this connection as showing the effect of stops and road surface upon horses, a rough indication that the effect is of marked importance is given in statistics of the average useful life of animals under different conditions of service. Thus, the average life of horses hauling a heavy 3-ton truck at an average speed of 2½ miles per hour and from 10 to 15 miles per day, is 7 years. The average horse attached to a delivery wagon making from 12 to 15 miles per day at an average speed of 5 miles per hour lives but 3 or 4 years, before he must be retired.

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FACTORY TESTS OF HILL CLIMBING

Jeffery Installs Device Accurately Showing Rambler Capability at Various Grades —Practical Stunts on Inclines.

Mental estimates of hills and grades are much like estimates of speeds, or of the weight of fish that got away, and it is rare indeed that any hill that presents an appearance of steepness begins to equal in cold fact the guesses that are usually made as to its grade. While it is pleasing to the owner of a car to place a very high estimate on the character of some grade which he has triumphantly surmounted, the more sober demands of testing service require that the manufacturer know accurately just what his cars can actually do in this line.



TESTING THE HILL CLIMBING CAPABILTY OF THE RAMBLER

One of the most complete devices to determine the hill climbing powers of automobiles has been installed at Kenosha, Wis., for the use of Thomas B. Jeffery & Co., in connection with the testing system for Rambler cars. As shown by the illustration, it consists of an incline platform and runway. The platform is 25 feet high, and each car, before it leaves the factory, is required to perform a series of hill climbing "stunts" that will prove its ability to do all and more than will be required of it in touring use in the hands of a private owner. After that is being tested is run slowly up the first portion of the incline, which represents a 20 per cent. grade, and then proceeds a little more rapidly up the 30 per cent. grade until it reaches the 40 per cent. section. There the car is stopped and started again on the low gear. Each car is required to climb the full grade on all gears before it passes inspection.

Almost needless to say, the grades are not mere estimates, but were mathematically laid out when the platform was designed. In this way all guess work as to the hill climbing abilities of the machines has been eliminated, and while the runway does not present the picturesque features of many apparently very steep mountain roads, it gives an assurance of fact as to grades, which is valuable to both manufacturer and purchaser alike.

Keep the Fan Adjustments in Order.

If the adjusting device on the fan driving belt is permitted to become disordered in such a way as to render its adjustment insecure, it should be corrected at once, as otherwise there is danger that it may cause the belt to become slack when on the road —a difficulty which will not manifest itself until hill-climbing is encountered, when it may be responsible for serious overheating.

EKING OUT A SCANT FUEL SUPPLY

How a Motorist Made Pebbles Serve His Need—But the Clever Trick Had a Troublesome Sequel.

Being in sore straits as a result of the low supply of fuel in his gasolene tank, an ingenious motorist is reported to have resorted to the simple expedient of dropping small pebbles into the tank, one at a time in order to raise the level of the fuel above that of the outlet pipe, thereby ensuring for himself a very small additional quantity of the needful to carry him to the nearest point where a new supply could be obtained. The device was not without its unhappy after effects, however. For setting aside the clogging effect of the dirt which washed from the stones, it was found to be impossible to remove the pebbles from the tank, even when the tank was taken from the car and shaken upside down. Ultimately it became necessary to take it apart in order to clean it. The incident serves as a good illustration of the need of taking second thought before applying a remedy which results from roadside inspiration, resulting possibly from dim memory of an old fable about the bird that secured a drink by a similar expedient.

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SHORT MEASURE ON A SPEED TRAP

How Automobilists Have Been Shaken Down on One Jersey Road—Surprising Results of an Investigation.

Maybe speed traps are desirable as conducing to a more careful observance of law on the part of motorists than would be given were there no such aids to the rural constable and country magistrate. But the bedrock principle upon which any such desirability can be established is that of honesty in their measurement and operation. This appears to be lacking in the case of one or two traps operated between Metuchen and New Brunswick, N. J., and investigation by the legal committee of the New Jersey Automobile Club tends to show that many convictions obtained in the court of Justice of the Peace William H. Housell have been unjust.

On two different days Joseph H. Wood, acting chairman of the committee, accompanied by members of the club and a newspaper representative, went to Highland Park, near which the traps are situated, and inspected closely not only the traps themselves, but the manner in which they were operated. The result was a series of signed statements which Mr. Wood now has in his possession.

The first expedition was made on Sunday, 2d inst. After some search the two traps were found on the main road between Metuchen and New Brunswick, near Highland Park. One trap is operated so as to time vehicles going to New Brunswick, and the other to catch machines running in the opposite direction. A visit was paid to Justice Housell, who holds court in a small white frame house on the western side of the road, and a request was made of the constable to indicate the limits of the two traps. He demurred at first, but at the suggestion of the justice that he comply, accompanied the motorists on the car.

The machine which Mr. Wood drove was equipped with a combined speedometer and trip mileage register, indicating to tenths of a mile. After Constable Mundy had indicated the limits of the traps the car was sent slowly over them and the register carefully watched. On the trap to the north of the justice's place of holding court the distance recorded was correct for the quarter of a mile claimed, but on the trap nearer to New Brunswick was less than the distance was indicated.

After carefully noting the ends of the trap, as pointed out by the constable, the party was about to depart, when a boy was seen signaling with a handkerchief from a clump of bushes many yards in ide the trap. Upon being questioned, he said that he was supposed to wave the handkerchief as a car passed him, as a signal for the man at the other end of the trap to start his stop watch when the automobile passed him at the other extremity of the trap, and if the elapsed time was 35 seconds or less, the second man gave a signal to Constable Mundy, stationed still further down the road, to stop the machine and take the driver before Justice Housell.

The actions of the boy with the handkerchief were carefully watched. It was seen that as several cars went by he waved the handkerchief exactly as the machines passed him, but in at least one instance he waited until the automobile had reached a point several yards beyond him, that is, further into the trap. Both the position of the boy and of the car in the latter instance were noted, and then the party returned to Newark.

On Monday afternoon, 10th inst., another trip was made to the two traps, one of which was found to be in full operation, a motorist being on trial before Justice Housell at the time the investigators arrived. On this day, Mr. Wood had with him not only the witnesses of the previous Sunday, but a surveyor equipped with standard steel tapes. The engineer made a careful measurement of the traps, after the points of location had been found as laid out the Sunday before.

The measurements showed that the trap to the south of the justice's headquarters is four feet short of the 1,320 feet for the quarter mile claimed. The position which the boy with the handkerchief had taken on the Sunday the investigation was made was found to be 106 feet from the end of the trap as pointed out by Constable Mundy, and the position of the car which had been wigwagged after passing the boy was found to be 108 feet still nearer the other end of the trap. This clipped 218 feet off the 1,320 which the course was claimed to be. In at least one case, then, a car had been timed for 1,102 feet instead of the full quarter of a mile.

This difference is sufficient to cause an apparent increase of speed of five miles an hour over the actual speed. For instance, if a car were traveling at such a rate that it made the 1,102 feet in 30 seconds, it would actually be traveling 25 miles an hour. This is a speed at which Justice Housell asserts he has never convicted a motorist, holding that a margin of five miles per hour above the limit of the law should be allowed for errors. According to the computation for a full quarter of a mile, however, the machine was making 30 miles an hour, and its driver would certainly be convicted.

Moreover, according to the voluntary statement of Constable Mundy, motorists are fined if they cover the distance of the trap in 35 seconds or less. Figuring on the speed for 1,102 feet at 35 seconds, gives only 21 miles an hour, an excess over the limit of 20 allowed by the law, which no judge would recognize. How many motorists have been fined through the "mistake" in measurement cannot be determined.

LOWERING THE "BISCUIT RECORD"

Grain Harvested, Ground, Made into Bread and Eaten within 22 Minutes—How an Automobile Assisted.

Waitsburg, away out in Washington, is proud! It has placed the "biscuit record" to its credit and owns up that the automobile made it possible. The story of the glorious achievement is thus heralded by a Washington correspondent:

"Dale H. Preston, driving a 30 horsepower Corbin automobile, sent over a quarter mile stubble field and 1¾ miles of country road at a 70-miles-an-hour clip, was the chief factor in lowering the world's record in producing biscuits made with flour from the plump heads of grain which nodded in the morning sun 22 minutes before. The feat was performed at Waitsburg, Wash., south of Spokane, the grain being grown on a hillside farm owned by N. B. Atkinson, president of the Washington State Farmers' Educational and Co-operative Union, two miles from town, and the test was witnessed by R. M. Breeze, mayor, and 50 residents.

"The various stages of the operation and time announced by R. H. Ormsbee, formerly prosecuting attorney of Walla Walla county; E. L. Wheeler, editor of the Waitsburg Times, and Platt B. Morrow, general merchant, official time keepers, follow:

9:03—Ripe wheat standing in the field.

9:04—First head clipped from the straw by the heading machine.

9:08—Grain started into the cylinder of the threshing machine.

9:11—Four sacks threshed, sacked and sewed and loaded onto automobile.

9:14—Grain received at mill, two miles from field, weighed and dropped into the receiving hopper; four sacks weighed 535 pounds.

9:19—First flour appeared at packer, having traveled 640 feet in the machinery. A. Beck, baker, began mixing flour, baking powder and water into dough.

9:21—Molded dough in pans placed into oven.

9:23—Two sacks of flour ground, sacked and sewed, ready for market.

9:26—Biscuits taken from the oven, buttered and distributed among witnesses.

"With the exception of the automobiles employed to carry the grain and the time keepers and the pressing into service of a gasolene oven, the process of harvesting and manufacturing was regular, the cutting and threshing being done by an ordinary crew, which had operated the machines in the field two weeks."

The broad asphalt pavements of Washington are to be sprinkled by automobile water wagons. No demands have been made by Washington's floating population that passenger arrangements be provided.

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SUPPLEMENTARY SPIRAL SPRINGS



¶ If every driver had to ride in his own tonneau, every car would be quickly equipped with Supplementary Spiral Springs. Owners are not intentionally selfish—many of them just thoughtless. Usually driving or sitting beside the driver, the riding qualities of the tonneau are to them practically unknown.

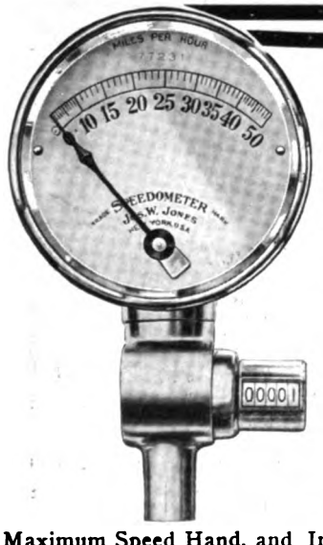
¶ Not so with the passengers. Rear springs must be strong enough to resist severe shocks under a full load. That means stiff springs under ordinary loads, with the shocks and jars transmitted to the passengers—guests whose comfort ought to be a first consideration.

¶ **SUPPLEMENTARY SPIRAL SPRINGS** take up all the average bumps and road inequalities and come into real action with the jolts and jars encountered at speed.

¶ With the S. S. S., your springs never whip or touch. They prevent breakage and are the most economical and useful accessory ever provided for a car. Every live dealer carries them and their attachment is a matter of a few hours' time. Do it NOW.

SUPPLEMENTARY SPIRAL SPRING CO.

Motor Mart, New York — 4555 Delmar Ave., St. Louis, Mo.



THE BEST Speed Indicator in the World for $25

JONES SPEEDOMETER

The Jones at $25 actually excels in accuracy and efficiency, instruments sold by other manufacturers for $40 and $75. This instrument has 3-inch porcelain dial, 50-mile speed scale, 10,000-mile Veeder Odometer register. Same driving mechanism as Jones Standard instruments.

The Jones with the exclusive Maximum Speed Hand, and Instantaneous Reset Odometer is beyond competition. It is the acknowledged Standard speed indicator of the world.

Out of 46 contesting cars for Glidden and Hower Trophys and Glidden Certificates, 33 cars were equipped with Jones. 4 out of 5 Official cars also carried Jones.

Write for "The Speedometer," a magazine devoted to speed subjects, and the Special Speed Issue of "The Evening Bulletin" of particular interest to all motorists.

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¶ Have you given thought to the manifold, unusual, good qualities of the

Gyroscope Car

¶ The merits of the car are so pronounced that we have contracted for the ENTIRE OUTPUT of the Detroit factory for FIVE YEARS.

¶ At $750, equipped, the Gyroscope Runabout, or at $800, the Tourabout or Touring car, is by far the best selling proposition of the times.

¶ Its freedom from cranking, its absence of transmission annoyances, its anti-skid feature (due to the gyroscopic action of the horizontal fly-wheel), its low cost of maintenance, elimination of vibration, and the impossibility of turning over on short curves at high speed, and its minimum wear on tires, combine to make the GYROSCOPE Car the safest, simplest and most economical car ever put on the market.

¶ We are signig contracts daily for territory allotments on better terms than other companies can afford to offer. There are no conditions (such, for instance, as making you sell higher-priced cars to get your small ones). By November 1, we shall have closed for our 1909 output.

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SOLARCLIPSE LAMPS

THE WONDERFUL SOLARCLIPSE LAMP

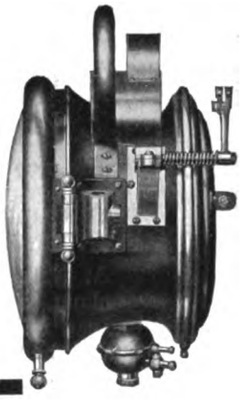
throws two distinct rays: one powerful long distance field of light—and one short distance. The first is thrown over one thousand feet ahead—the second directly in front of the motor car.

It is generally admitted that the blinding glare from a Headlight or "Search" impairs the usefulness of the lamp, when city driving is necessary.

The Automatic Self-Eclipsing Mechanism

makes it possible to suppress the long distance ray at will—this leaves the road immediately before the car brilliantly illuminated. Solarclipse Lamps completely solve the acetylene head light problem.

Complete description of this wonderful lamp in our 1908 catalog, sent free upon request.



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Matheson

One Year Guaranty **1909 MODELS** **Immediate Deliveries**

Write for our complete catalogue and book of customers' letters. How well we have succeeded in building the best motor car in all the world is told by our customers themselves, who, as a class, are the most prominent men of affairs in this country.

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MIDDLETOWN, N. Y.	Empire Garage Company.
ROCHESTER, N. Y.	Rochester Automobile Company.
GENEVA, N. Y.	D. M. Dorman.
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PITTSBURG, PA.	Matheson Agency, 41 Leader Bldg.
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BOSTON, MASS.	Matheson Co. of Boston, Cambridge, Mass.
CHICAGO, ILL.	Bird-Skyes Company, 147 Michigan Ave.
BALTIMORE, MD.	Matheson Co. of Maryland, 1002 Morton St.
ST. LOUIS, MO.	South Side Auto Co., 2339 S. Grand Ave.
FORT WAYNE, IND.	Strauss Bros. & Company.
PORTLAND, OREGON.	H. L. Keats Auto Co., 80-82 Seventh St.
LONG BRANCH, N. J.	Long Branch Auto Co.
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Dealers are wanted in all localities where we are not now represented.



Touring Car $5,500, seats seven; Roadster, $5,000, seats five; Rakish Steering Post, Demountable Tonneau.

Tourabout, $5,000, seats four; Rakish Steering Post; Demountable Rear Seats.

MATHESON MOTOR CAR CO., Makers,
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Licensed under Selden Patent.



WEED CHAINS

Made Perfect Scores Possible in the Glidden Tour

Had it not been for Weed Chains it is doubtful if any of the cars in the Glidden Tour would have completed the 1,669.7 miles run with perfect scores.

Mrs. Cuneo's telegram says: "Used chains three wheels; hardest day's trip 130 miles, over mountains; record time an impossibility without chains." This makes clear that it would not have been possible to travel on the wet, slippery roads without the use of Weeds.

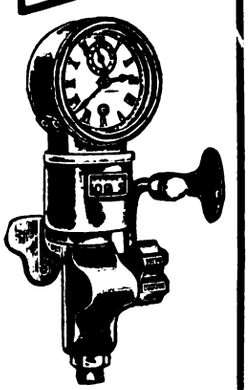
Weed chains when attached to your tires positively prevent skidding. They grip and hold the wheels to the road, and enable the heaviest automobile to climb hills, or negotiate in mud or sand without any trouble. They prevent lost traction, and reduce gasolene consumption. Fit any standard tires; are readily attached and detached.

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The Week's Patents.

888,906. Cushion Tire. James B. Jordan, Nashville, Tenn. Filed Feb. 25, 1907. Serial No. 259,181.

1. A vehicle tire comprising a hollow, heart shaped resillient core, a cover therefor, combined with means for securing the core and covering to the felly of a wheel, and cloth-covered metallic inserts in the tread of the cover to prevent slipping and skidding of the tire.

888,932. Automobile Sled Attachment. Henry H. Rohlf, New London, Wis., assignor of one-third to Adolph L. Haase, New London, Wis. Filed Sept. 9, 1907. Serial No. 391,985.

1. In combination, a runner, a driver mounted upon the runner, a jack interposed between the driver and runner to effect certical movement of said driver, said jack comprising a cylinder and a plunger, and means for supplying a fluid medium to the cylinder of the jack to effect movement of the driver.

888,933. Traction Wheel. Henry H. Rohlf, New London, Wis., assignor of one-third to Adolph L. Haase, New London, Wis. Filed Sept. 9, 1907. Serial No. 391,986.

In a traction wheel, the combination of a rim comprising a felly and a tire, the same having registering openings, the openings in the tire being internally threaded and the openings in the felly being contracted, cogs, each consisting of a tapered end, a threaded body portion and a stem having its outer end threaded, a shoulder being provided at the base or juncture of the body portion and pointed end, said cogs serving when in position to connect the tire and rim and having their shouldered portions engaged with the tread surface of the tire, their threaded body portions screwed into the threaded opening of the tire and their stems passed through the contracted openings of the felly, and set nuts fitted upon the threaded ends of the stems.

888,965. Automatic Carburetter for Explosive Motors. Louis M. G. Delaunay-Belleville, Paris, France, assignor to Societe Anonyme des Automobiles Delaunay-Belleville, St. Denis, Paris, France, a Corporation of France. Filed Sept. 30,1907. Serial No. 395,205.

1. A carburetter comprising a casing having a tube for the passage of vaporized fuel and primary air, a supplemental air inlet in alignment with said tube, and a conduit extending laterally from said tube, means arranged at the junction of said tube and conduit for deflecting the vaporized fuel and primary air from said tube and the supplemental air from said inlet into said lateral conduit, and a device for controlling in direct proportion the quantities of vaporized fuel and primary air, and the supplemental air admitted to said inlet, into said conduit.

889,069. Pneumatic Tire. Charles E. Titus, Springfield, Mass. Filed June 21, 1907. Serial No. 380,136.

1. A tire reinforcement comprising a plurality of overlapping and interengaging tread members connected to the periphery of the tire and having the central portion of its lower face constituting a fulcrum.

889,181. Transmission Mechanism. Orson W. Davis, Rochester, N. Y., assignor, by direct and mesne assignments, to Gearless Transmission Co., Rochester, N. Y., a Corporation of New York. Filed Oct. 24, 1906. Serial No. 340,354.

1. In a transmission mechanism, the combination of the motor and driven shafts in axial alignment and independently rotatable, of means mounted upon said shafts and rotatable therewith for connecting them to cause them to turn in unison, and frictional transmission members some of which are supported independently of said shafts, and others of which are mounted on said shafts for connecting said shafts indirectly to drive the driven shaft in either direction at a speed different from that of the motor shaft.

889,263. Pneumatic Tire for Vehicle Wheels. Robert P. Scott, Cadiz, Ohio. Filed June 20, 1906. Serial No. 322,552.

1. The combination of a pneumatic tire having an inextensible selvage, a flanged rim carrying an expansible band furnishing an adjustable seat for the selvage, and an annular, expansible and removable side flange, sprung into the space between the band and rim flange to hold the inflated tire in position, substantially as described.

889,334. Armor for Tires. Frank E. Remark, Akron, Ohio. Filed Nov. 21, 1906. Serial No. 344,484.

A chain armor for tires formed of a plurality of rows of links circumferentially disposed with respect to the tire of the wheel, each of the links of said rows of links substantially rectangular in contour and having rounded corners, the end portions of each of said links bent above the plane in which is positioned the intermediate portion, each of the links of each row with the exception of the links of each outer row interlocking with four adjacent links, each of the links of the outer row interlocking with three adjacent links, said links gradually increasing in width and length towards the center of the armor.

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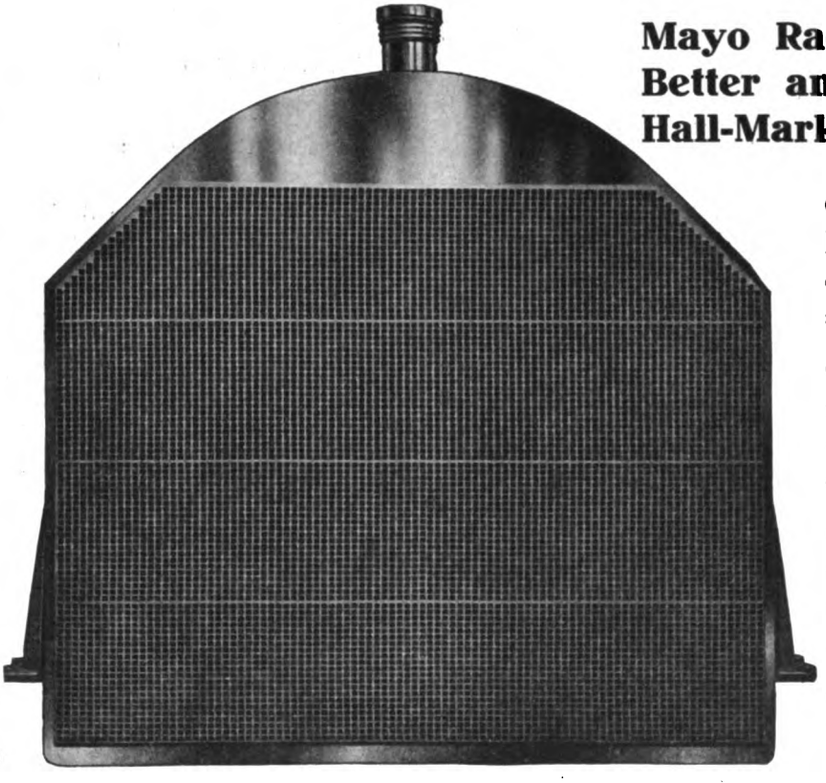
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Trusting this letter may be of benefit to you, I remain, Yours very truly, (Signed) JOSEPH A. WEBBER, Lieut., Aide to Chief.

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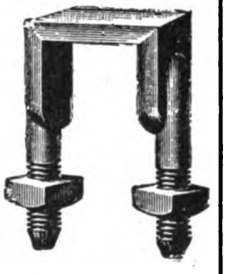
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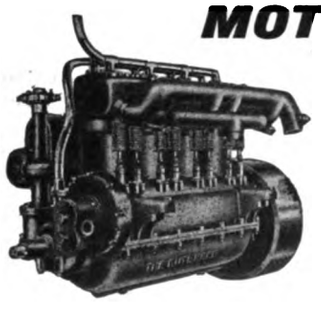
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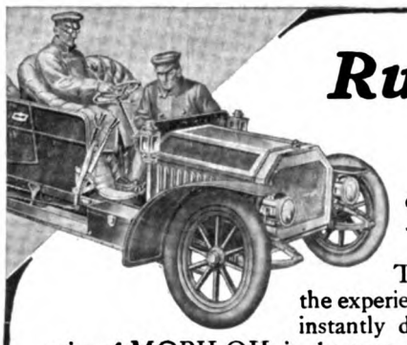
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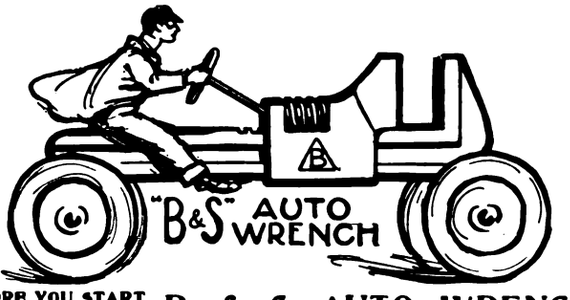
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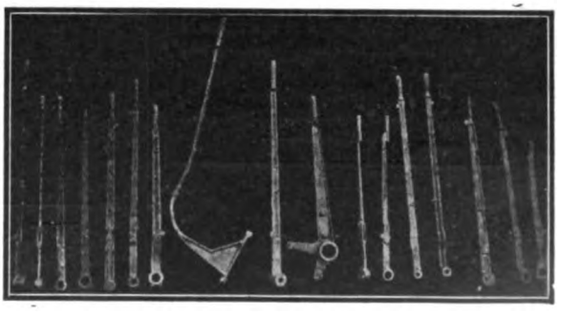


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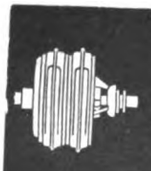
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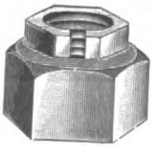
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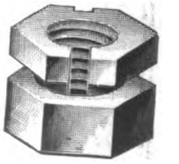


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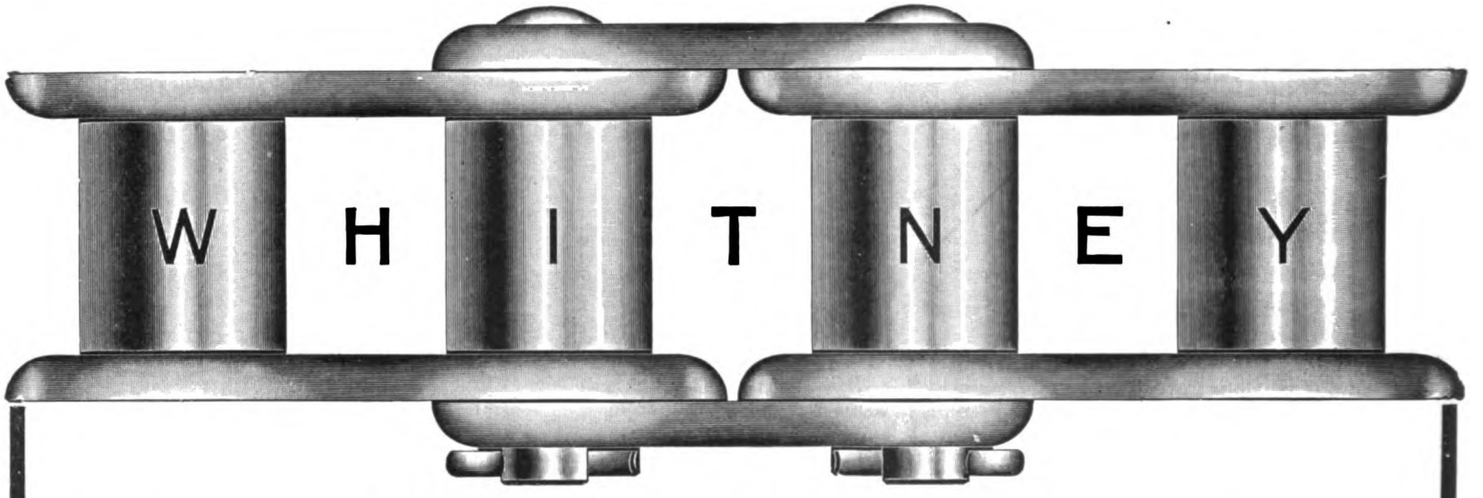
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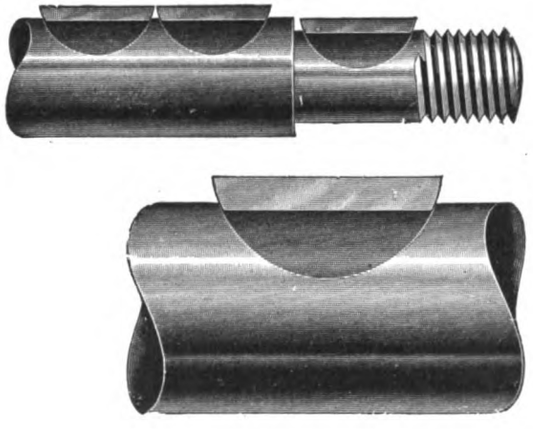
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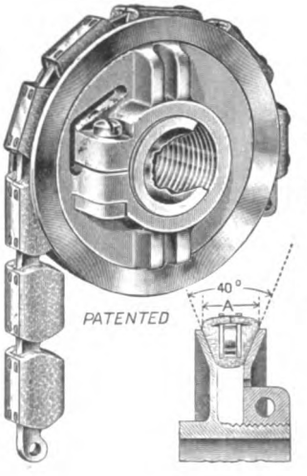


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If you are not taking advantage of the Woodruff Patent System of Keying it will pay you to investigate.

Better results and a great saving in cost.

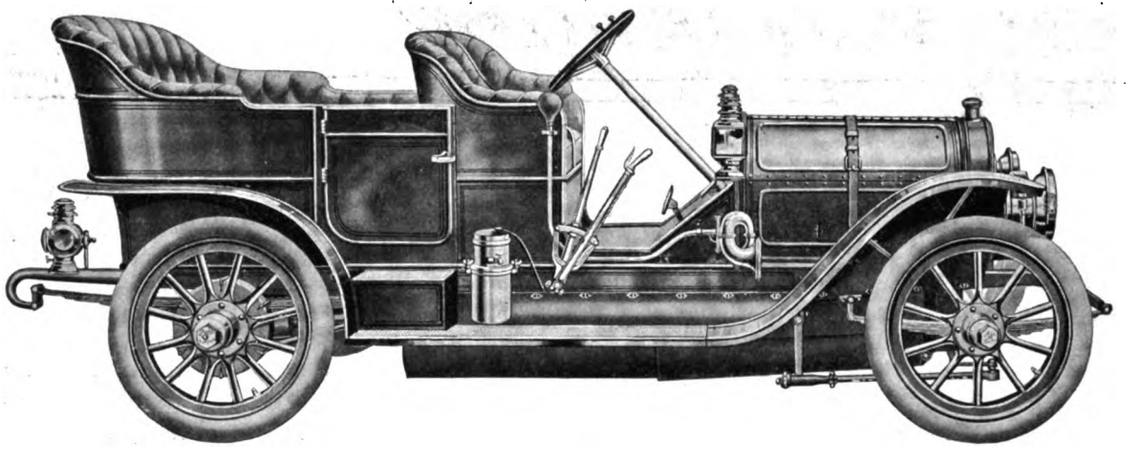
We carry 95 regular sizes of Keys and Cutters in stock for immediate delivery.

THE WHITNEY MANUFACTURING COMPANY

Hartford, Connecticut

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1909
Pope-Hartford Models



Pope-Hartford Model S, $2750

The POPE-HARTFORD 1909 models embody all that is best in automobile construction and will be conspicuous in the foremost ranks of the automobile world.

We invite comparison of the details of POPE-HARTFORD cars for 1909 with those of the world's best motor cars. Because of their perfection, refinement and elegance they will appeal to the superior judgment of critical and discriminating purchasers.

OUR 1909 LINE WILL CONSIST OF THREE MODELS:

A Standard Touring Car similar to the above illustration, **Price $2750**

A Standard Roadster which will be illustrated in this space next week, **Price $2750**

A Pony Tonneau Car which will be illustrated the week following, **Price $2750**

New and important improvements, not incorporated in any other motor car, are included in the POPE-HARTFORD 1909 CARS. Each improvement which we have added has been given a careful and thorough *test,* and our catalog, now in preparation, explains fully all the details and mechanical excellence of the new models. Let us place your name on our mailing list for an advance copy.

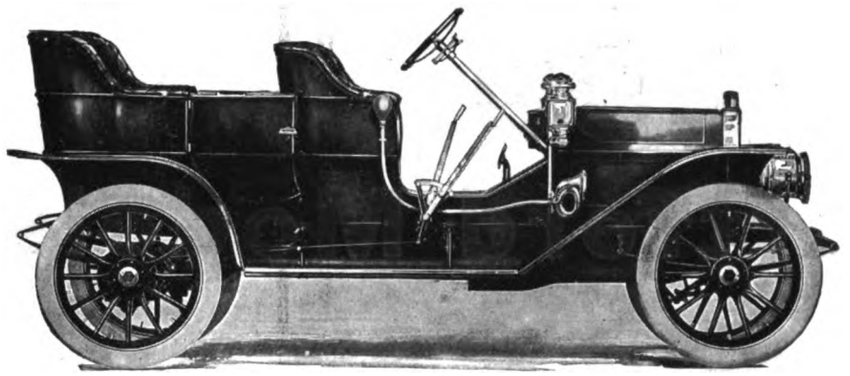
Agents almost everywhere. Correspondence invited with interested dealers.

Pope Manufacturing Company

HARTFORD, CONNECTICUT, U. S. A.

Members A. L. A. M.

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E-M-F "30"

TOURING CAR $1250

THE NEWS

On June second at a dinner at the Cafe des Beaux Arts, New York, the organization of the million dollar Everitt-Metzger-Flanders Company was announced.

Today—less than three months from that date—this "hyphenated" concern is rated one of the biggest factors in the automobile industry.

The interest created when the personnel of the company was announced was increased to a veritable sensation when the specifications of its product, the E-M-F. "30" Car, were given to the world; and when the price for this splendid car, with full lamp equipment and magneto, was set at $1250, there ensued a small sized panic among the high-price contingent of automobile manufacturers—and those who thought they knew how to manufacture, but try as they would, were unable to see how we could do it at the price.

Of course we have their sympathy—we are sure of that.

We also have their advice—in chunks. "Raise the price to $1500—you'll sell all you can make," is the burden of their fatherly promptings.

Still we don't heed—don't even realize that we are on the very brink of destruction or that we are "throwing away a million or so" by selling a car at $250 to $500 less than any other concern ever has or can sell a car of equal merit.

You who read this have doubtless kept in touch with the development of the automobile industry during the past ten years. If so, you can recall that each successive year there has appeared some one car that possessed all the earmarks of success—that seemed to represent the highest state of development up to its time. And you recall that, with unerring instinct, that car sprang into instant favor with the trade and public alike.

Well the E-M-F. "30" has taken at a bound, and today occupies, that enviable position.

It is admitted leader—makers of cheaper cars are already saying "Just as good as the E-M-F. "30," while those whose product is listed a few hundred dollars higher, are busy explaining why. And without much success for a comparison of the product—details of design, materials and workmanship—shows the E-M-F. "30" to be incomparably superior at every point.

There is a reason: The men back of the E-M-F. Car have a standing in manufacturing circles that guarantees the excellence of product. And the car itself combines so many features every motorist knows to be the best, all agree it is a composite of superiorities.

Each man who examines the E-M-F. "30" or reads the specifications feels as if he had designed it himself so nearly does it approach his ideal in every detail, his heart's desire as a whole.

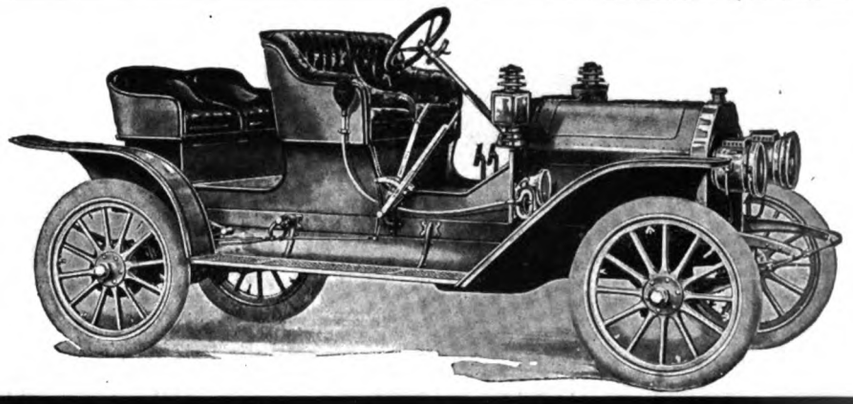
We believe that to the man who has not seen and ridden in an E-M-F. "30" Car, or to one—if any such there be— to whom a mechanical description conveys no clear idea, the names of the men—financiers, manufacturing experts, sales and advertising specialists—back of this product is a guarantee not only of quality in the car, but of conscientious, generous treatment to the buyer afterward.

That's why we lay so much stress on our organization; so much that envious rivals have dubbed us "The Mutual Admiration Society"—a compliment we accept cheerfully and gratefully; for ot not all organizations can this be said. It's a factor that makes for concentrated effort and guarantees results that are unobtainable by any organization where this same mutual confidence and admiration are absent.

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E-M-F "30"

ROADSTER $1250



THE ORGANIZATION

First: The capitalists back of the E-M-F. Co. They are not tyros at the game. All are men of ripe experience in the business. All have been connected with it from its infancy—learned to know it in all its phases and caprices. Being young men they have optimism plus and a faith unfaltering in the future—the far future of this industry. They don't ask, don't desire, big dividends the first year. They have a pride in the product, a desire for success on broad lines—an ambition to excel. They are willing to forego the mushroom profits of today in order that a foundation may be laid, a policy formulated, that shall meet all conditions and stand the test of time. But money alone will not build automobiles. Capital unaided by experience, cannot cope with manufacturing problems.

Organization—a merger of brains and experience—is essential to success on a large scale. This fact was fully appreciated by Mr. B. F. Everitt, organizer, and president of the E-M-F. Company. In "framing up" his company he determined on an "all-star cast."

Until a few months ago, one of the largest manufacturers in the accessories field, Mr. Everitt's acquaintance with the men who did the things other men got credit for, eminently fitted him to select the right material. The result is a group of men every one of whom is a specialist—an acknowledged leader—in his own line. All have made good to a signal degree—the history of the industry is their history—the credit for its greatest achievements, theirs.

Than William E. Metzger, Secretary, and Sales Manager of the E-M-F. Co., no man in the motoring world is better or more favorably known. As Sales Manager of the Cadillac Automobile Co. from its inception, he has run the whole gamut of experience, taken a prominent part in every event of any importance, held many offices, been the receipient of many honors. The name Metzger stands for a broad gauge policy, a concrete sales organization, and to the buyer of E-M-F. cars ensures liberal treatment, at all times.

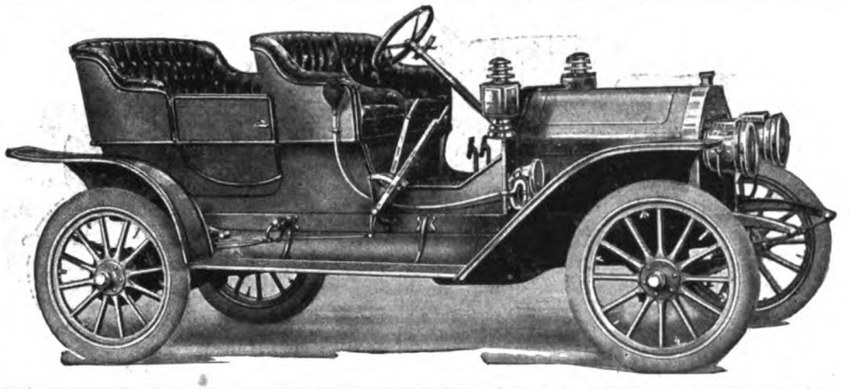
If, as all authorities agree, the future is to the concern that can produce on the largest scale, most accurately, most regularly and economically, then Walter E. Flanders is the very keystone to the arch of the E-M-F. organization. He is recognized as the greatest factory organizer, the keenest buyer, and by far the ablest producer the industry has known. As Manufacturing Manager of the Ford Motor Company until a few months ago, his record is patent to the world—it yet stands unequalled—unchallenged.

Back of Mr. Flanders are Factory Manager Thomas Walburn, General Superintendent Max Wallering and the several department heads—forming an "officers' mess" in which perpetual harmony prevails, because each is a specialist, an expert in his own line and none conflicts with another. It is only with such an organization that great things are possible.

Chief Engineer Wm. E. Kelly has been in the business from its infancy—he antedates some of the "pioneers" who make greater pretentions. Like others he has designed some cars that did not come up to his expectations—in later years by riper knowledge he has produced some of the very best. In the E-M-F. "30" Kelly and his corps of designers have realized a long cherished ambition.

E. Le Roy Pelletier, formerly Advertising Manager of the Ford Motor Company, is known by his work—and its results. In fact, there isn't a weak link in the chain—no man of mediocre ability filling an important position—no deadwood anywhere.

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E-M-F "30"

DEMI-TONNEAU $1250

THE CAR

Nothing added—no frills or furbelows. Nothing omitted that experience has proven or convention taught you to consider a necessary part of a first class motor car. Not one original feature—not a single novelty—no startling innovations. Not one experiment—not one hair-brained theory or half baked mechanical idea; not an untried invention—or metallurgical hallucination—will you discover in the E-M-F. "30."

Instead you'll find all the good, the simple, the reliable features you have come to know as standard.

In the early days there may have been some excuse for the maker trying out his inventions, his theories, on the buyer—at the buyer's expense. But today we know what details of construction go to make up a first class automobile— the wise manufacturer is the one who combines these rather than tries to invent new ones.

The motor is the accepted standard 4-cylinder verticle, four-cycle type—well built, with large valves, silent and smooth in operation. A magneto is a part of it—as it should be—not an extra.

The sliding gear transmission is superior to any other known type; and ninety per cent. of buyers prefer the "selective" system of operation. These are combined in the E-M-F. "30" in a little neater, a little more compact form than in any other car. The operating system is very nearly ideal.

It's admitted that the "unit" system of power transmission is ideal—transmission and rear axle in one; but it has been considered too expensive for any but high priced cars. You'll find it in the E-M-F. "30" in the neatest, lightest and most compact form.

The brake system is the best known—four brakes all acting on rear hub drums.

The steering gear is of the worm-and-sector type, identical in design, material and construction with what you'll find in cars of $4,000 to $5,000—simplest as well as best.

Of coil, radiator, commutator and all other parts the same holds good—they are the best types you know.

A magneto has, hitherto, been considered only as a part of a high priced car—and then as an expensive extra in all but a very few cases. It is as much a part of the E-M-F. "30" as are the valves. We believe a constant, uniform and absolutely reliable source of electrical energy is essential to pleasurable motoring. We've set the pace for all makers by building the magneto into the motor and including it as a part of the equipment without extra charge. Other cars listed at prices to compete with the E-M-F. "30" figure more nearly $2000 when equipped with magneto, lamps, top and other touring necessities.

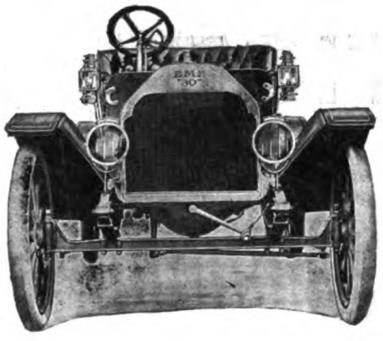
The E-M-F. "30" is not an "assembled" job. We make every part of it in our own factories.

The day of the "assembled" car has passed. An automobile is too complex a piece of mechanism—requires too accurate a degree of workmanship on every part, to lend itself to the methods of parts makers and assemblers. We speak by the book, having had extensive experience in the "assembling" field.

Makers of "assembled" cars have our sympathy; buyers of them our commiseration.

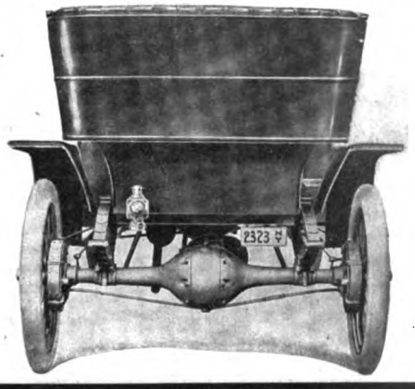
So long as motor, axles, transmission and other vital parts are farmed out to different makers, accuracy is absolutely impossible,—interchangeability unobtainable. And the failure of a parts maker—or a discontinuation of business relations between him and the concern who furnishes the nameplate—leaves the owner in a helpless, hopeless position.

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E-M-F "30"

BEFORE AND AFTER



THE WHY AND THE HOW

Since the price of the E-M-F. "30" Car announced, this subject has been up for discussion—and criticism—in no less than two manufacturers' meetings, to say nothing of the countless informal gatherings of trade gossips where it has been the chief topic of discussion.

"Why," they ask, "why give the public a million dollars and more on your first 5000 cars (they all protest we'll raise the price so soon as the reputation of the car is established) by selling such a car for $1,250 when, goodness knows, you can sell all you can make at $1,500, or a few hundred dollars more for that matter? Why set the price so low?"

"In order to increase the quality," we answer.

They don't understand—and yet they claim to be manufacturers.

Here's the explanation—its obscurity lies in its very simplicity.

A better car can be manufactured and sold for $1,250 than is possible at twice that price. Mull that over.

There's no catch—no play on words. It means exactly what it says. And here's why:

For every man who can afford a $2,500 car there are 500 who can afford one at half that price—500 to 1!

Figure it out: statistics prove there is only one man earning $5,000 a year for every 500 who earn $1,800—and, whereas, no man with an income less than $5,000 can afford a $2,500 car, a $1,250 car should not be considered a luxury for a man earning $1,800 a year.

Certain of our market, we can plan on a large scale—12,000 cars in a year. Buying for this quantity we get the lowest price on raw materials. Manufacturing in such quantities we are able to adopt the most modern methods and to install highly specialized machinery. We cut the cost of production in half. And we increase the quality at the same time because methods are possible to us that no maker of $2,500 cars—producing in the small quantities the limited demand permits—can adopt.

Here's one example that illustrates why:

The cost of dies for making one part of the rear axle of the E-M-F. "30" Car is $9,000. Suppose the output be only 100 cars of this model—the "overhead" on that part would be $90 in each car. Carry the same practice through the entire car and it couldn't be sold for $20,000! On 1000 cars it would still be prohibitive—$9.00 per car. On 2,500, which some "name plate" manufacturers call "large quantities," it still figures $3.60 for tool cost on only one of over 1,000 parts in the car. On 12,000 cars it amounts to the insignificant sum of 75 cents per car. And the part is absolutely interchangeable—lighter, stronger, better in every way than any similar part has been made before in cars of the highest price. Of course not all items reduce so rapidly, but throughout the entire car the saving is more than half.

In giving the buyer the full benefit of this saving we do not pose as philanthropists—we are merely making sure of our market without which the manufacturing of 12,000 cars would be a risk no sane concern would venture to assume. The price makes the market—the ready market makes quantity production safe—quantity production makes the price possible. It's as complete as a circle and as simple.

Send for detailed information and specifications.

EVERITT-METZGER-FLANDERS COMPANY, Detroit, Mich.

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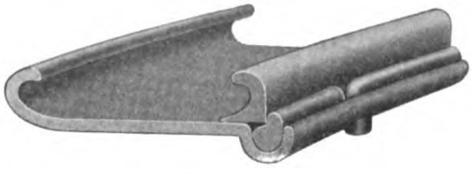
DID YOU NOTICE

that all the E-M-F. 30 cars will be fitted with

MORGAN & WRIGHT TIRES

as a guarantee that the tire equipment shall be above criticism.

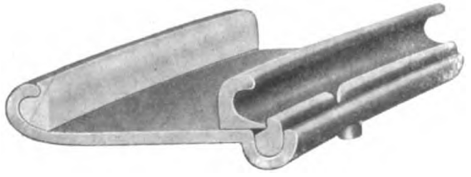
There is no method of making friends equal to the method of making good



For Clincher Tire

The Standard Universal Quick Detachable Rim

As an evidence of the favorable impression this rim has made upon car manufacturers, it may be stated that it has been adopted by the Association of Licensed Automobile Manufacturers as standard equipment for American cars; the change to take place as soon as it can be conveniently arranged.

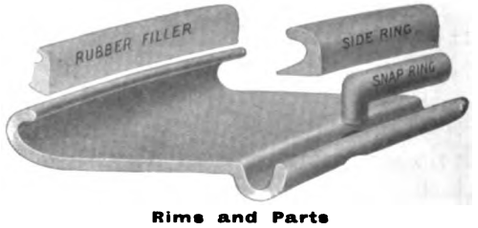


For Dunlop Tire

Removed and applied by simply unsnapping or snapping the locking ring. No turnbuckle to bother with.

Accomodates any standard size tire, Clincher, Dunlop or Quick Detachable.

Morgan & Wright Tires and Standard Rims would furnish a matchless equipment for your car, from the standpoint of both economy and modern rim design.



Rims and Parts

MORGAN & WRIGHT, Detroit

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$2000

THE SELDEN CAR

Finished the Glidden Tour with a CLEAN SCORE and Was Deprived of a "Perfect Score" by a Technicality

We entered a stock car, which had already been run over 5,000 miles, without any shock absorbers, straps, bumpers or other safety appliances, complying strictly with the rules as to equipment. (All other cars were equipped with these devices.)

Our car was equipped with a speed indicator, the sprocket connection of which worked loose crossing the mountains in Western Pennsylvania and fouled our steering knuckle, making it impossible to avoid a large boulder in the middle of the road, and we broke a front spring in consequence.

The broken spring did not penalize us, nor the repairing of the spring, but because we used four machine-made nuts (instead of four hand-made nuts) we were disqualified from further contest for the Glidden Trophy.

Our car continued the tour as a non-contestant, checking in and out every day, observing all the rules and finished with a clean score.

It was in such good condition upon arriving at Saratoga that we made a non-stop run from Saratoga to Rochester, a distance of 272 miles on the following day without any adjustment whatever.

Our "extra parts" bag was not opened on the entire trip. No other car did any better.

COMPARE OUR CAR WITH OTHERS IN THE TOUR AND SEE WHAT WE HAVE ACCOMPLISHED

Demonstrating the highest quality of workmanship and material, durability, stability and the all-important fact that a strictly first-class gentlemen's car can be made and sold for $2000.

Why Pay Double the Price for a Name-Plate?

Duplicates of this car are now ready for delivery.

All our cars are sold with a guarantee and with all that we have out during the past season the cost of repairs amounts to little or nothing.

The "Silent Selden" (as the car has become known by its quiet running) is made on honor, a credit to the name of the man who invented gasolene automobiles, and every owner is proud of his purchase.

Superb riding, roomy tonneau, luxurious upholstery, smooth running, great hill climber, flexible and easily handled, economical in up-keep, stylish and attractive—the coming car of the multitude.

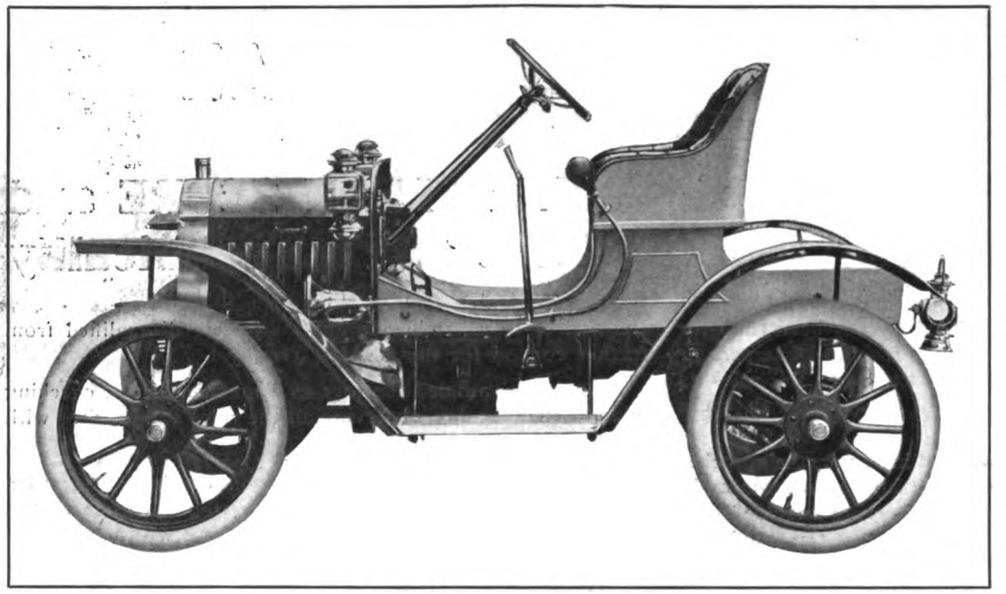
Now closing 1909 agencies—over half our output already spoken for. Good live agents wanted everywhere. Send for catalog and agency proposition.

SELDEN MOTOR VEHICLE COMPANY, Rochester, N. Y.

Members A. L. A. M.

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DEALERS—We Are Delivering Now



Model B

BRUSH Runabout

$500 - $550

While waiting for the wonderful things to happen next month or next year, we advise you to get busy **now** and take an agency for the Brush Runabout.

First convince yourself that the car is right. We have been manufacturing the Brush Runabout for over a year, and selling all we could make. Every month the car has been better than the month before. Now the new Model B, in which are collected all the features that have proved best, from which has been eliminated every feature that has proved troublesome in the hands of the unskilled user, the whole crystalized into an harmonious unit and clothed in an external design more pleasing to the eye than any small car in existence—this car is actually and literally not only the **best,** but the **only** car of its class. You, yourself, know how many buyers there are in this class.

Our records—such straws as the winning of the Algonquin Hill Climb, various endurance tests, the five car efficiency run just completed, the testimony of users, the adoption of our $600.00 Delivery Wagon by the Post Office Department at Washington—all speak for themselves. The genius of Mr. Brush, the ability and long experience of our manufacturing heads, the equipment and organization now tried out and molded into condition by the year and a half of work together on this one car means much to you.

Your final investigation should be a visit to our factory. We will show you new cars, cars and parts in work, every process and material, cars that have run thousands of miles, and we will give you every facility for finding out everything, testing everything.

There have been remarkable sensations before now. There will likely be more of them. Two of the biggest concerns startled the trade, way back, with $500.00 announcements. What did they turn out to be? How many strings were there to them? What discounts and conditions applied? How long did it take them to develop? **HOW MUCH MONEY DID DEALERS MAKE OUT OF THEM THE FIRST YEAR FOLLOWING THE ANNOUNCEMENT?**

Meanwhile, here is the Brush Runabout, purified by the fire of a year and a half experience in manufacturing, delivery and use, still on deck in spite of dire prophesies, with none but friends among its dealers and users, actually delivering every day—now—a better car than expected, but at the same price and regular discounts.

Will it pay you to forget your daily bread to chase the will-o'-the-wisp of "swell propositions"—marvels of the typographical art—astounding promises of the to-be-but-not-yet?

We stake our corporate word and our individual word, every one of us (and you know who we are), that the Brush Runabout Model B is the "rightest" little car ever built. It runs right, stands up persistently, has lots of power, has the sweetest, cleanest control you ever saw, and what we have always said about its durability is so. The lines of the Model B are so graceful and its finish so neat that people fall in love with it at sight.

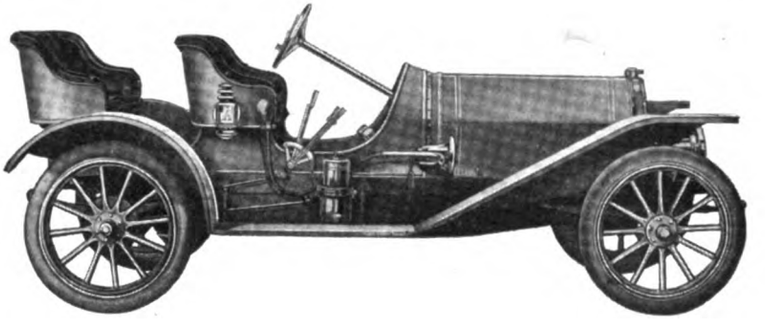
We have not taken and will not take on more dealers than we can supply. Come in now if you want to be sure of a sure thing. Don't wait—you have lots of time to figure on the will-'o-the-wisps, but the Brush Runabout is a **right-here-now** thing.

BRUSH RUNABOUT COMPANY, Detroit

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1909

Overland



Model 34, 6-Cylinder

$2,000

SPECIFICATIONS:

6-cylinder, vertical motor, cast singly.
Bore, 3½; stroke, 4½.
H. P., 35.
Lubrication—mechanical oiler, positive driven.
3-point suspension.
Water cooled, Thermo-siphon.
Spark and throttle control on top of steering pillar.
Double system of ignition with high tension magneto.
Three-speed selective transmission on rear axle.
Shaft-drive, bevel gear.
Internal expanding and external contracting brakes on hubs.
Wheels, 34x3½", Artillery type.
Goodyear Q. D. rims.
Water capacity, 6 gallons.
Gasoline, 12 gallons.
Wheel base, 116 inches.
Tread, 56 inches.
Half elliptic front springs.
Full elliptic rear springs with involute ends.
"I" beam front axle.

Equipped with high-tension magneto, headlights and generator, oil side and tail lamps, horn, and full tool and repair outfit. All bodies ironed for tops.

A choice of four bodies is given on the Model 34 Chassis.

Roadster with single rumble seat.
Roadster with double bucket seat, as illustrated.
Toy tonneau of exceedingly attractive design, and
Five Passenger straight line tonneau.

THE OVERLAND IS NO EXPERIMENT. THE OVERLAND HAS MADE GOOD.
THE OVERLAND AGENTS HAVE MADE AND WILL MAKE MONEY.

Write for specifications on our 4-cylinder models.

OVERLAND AUTOMOBILE COMPANY

INDIANAPOLIS, INDIANA

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To The Trade:

Owing to a misunderstanding caused thru information furnished it by one of our competitors, the Mechanical Board of the A. L. A. M. approved for adoption a certain type of Quick Detachable Rim.

This action was taken, however, before the said Board had inspected or even considered the compromise Rim offered by the Goodyear Tire & Rubber Company, and—furthermore—before it knew we were absolutely without representation before it in all its deliberations in connection with the selection of a Standard Rim—all due to the above misunderstanding.

We happened to come in contact with the Board in a most casual way, and after learning of its decision, had a general understanding, after which:

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It decided to hold in abeyance the adoption of a Standard Rim until this Company had an opportunity to present its side of the case.

Therefore, truthfully speaking—

The A. L. A. M. Mechanical Board has not finally adopted a Standard Rim, and will not do so until the Goodyear Tire & Rubber Company has been given a square deal.

The new Goodyear Compromise Rim has reversible Side Rings; dispenses entirely with the use of an extra rubber filler; meets every requirement of all tire manufacturers as regards measurements; and is so superior to the Rim proposed for adoption that there is no question but that it will be the final choice of the A. L. A. M. Board—and, in fact, all manufacturers of automobiles.

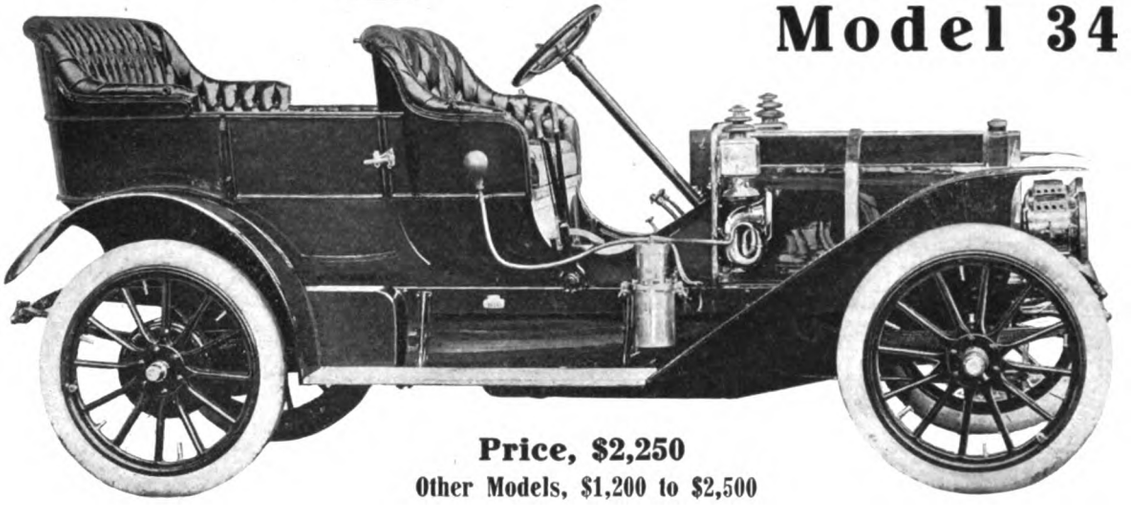
The Goodyear Tire & Rubber Co.

AKRON, OHIO

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Rambler

Model 34



Price, $2,250
Other Models, $1,200 to $2,500

TRY IT ON THE HILLS

Test this car at half speed on a hill or sand road where power and every ounce of it is needed. Notice how steadily and powerfully it pulls when running slowly under load.

The capacity of the offset crank shaft for doing this extra work is most noticeable at low engine speeds. All that power which in other engines is lost through friction on the bearings and cylinder walls, is added to the driving force by the Rambler offset crank shaft. It reduces friction; eliminates hammer on bearings; gives more power.

The straight line drive delivers the power direct and with least frictional loss to the rear axle. Let us demonstrate these features and the silence and the comfort of this car.

Tell our nearest representative to call at your home and take you to your place of business some morning in a Rambler. Or write your name and address and "Model 34" on a postal and mail to us today.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco.

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, August 27, 1908. No. 22

SWEEPING REDUCTIONS ON TIRES

Diamond Rubber Co. First to Announce New Figures—Same Prices Apply on Clinchers and Quick Detachables.

The tire situation, which has come to mean the new prices which will prevail on tires, undoubtedly will unfold itself with great rapidity within the next ten days.

As has been plain for several months past, the tire manufacturers have not been slow to appreciate the evils that have grown out of the inflated and fictitious list prices and the correspondingly large discounts that have prevailed, to which the Motor World was first to direct attention. These conditions have served to permit the price-cutters, bargain counters and so-called "discount houses" to wax fat at the expense of the legitimate trade and the public and it was to correct these abuses that the tire makers have been bending their efforts. It was well known that reductions were in prospect, but as little could be learned of their exact extent, every one concerned has been awaiting with undisguised anxiety the announcement of the new figures.

The Diamond Rubber Co. was first to relieve this suspense. Their list prices for their 1909 tires were made public this week. They disclose sweeping reductions all along the line, both in respect to casings and tubes. The range of the reductions is shown on the prices which formerly applied and which hereafter will apply on the more popular sizes. For instance, the 28x3 Diamond casing which previously retailed for $22.65, is now listed at $14.05, the tube which sold for $5.05, now is catalogued at $3.50. The 30x3 has been reduced from $24.40 to $15.05; the 30x3½ from $31.55 to $22.20 and the 34x4 from $45.25 to 34.50. The list of the corresponding inner tubes have been lowered respectively from $5.40 to $3.75, from $7.45 to $5.05, and from $10.20 to $6.90.

Not the least significant feature of the Diamond Rubber Co.'s new scale is the fact that the same prices apply alike to both the clincher and quick-detachable types of wrapped tread tires. Heretofore, the quick detachable has been held at an advanced figure. The new scale in its entirety is as follows:

Size.	Casing.	Tube.
26 x 2½	$10.90	$2.80
28 x 2½	11.80	3.05
30 x 2½	12.70	3.20
32 x 2½	13.65	3.40
34 x 2½	14.55	3.55
36 x 2½	15.40	3.75
26 x 3	13.00	3.25
28 x 3	14.05	3.50
32 x 3	15.05	3.75
32 x 3	16.10	3.95
34 x 3	17.15	4.25
36 x 3	18.15	4.50
38 x 3	19.20	4.70
28 x 3¼	16.80	4.60
28 x 3½	20.65	4.70
30 x 3½	22.20	5.95
32 x 3½	23.55	5.35
34 x 3½	25.70	5.70
36 x 3½	27.80	6.00
30 x 4	30.00	6.15
31 x 4	31.10	6.35
32 x 4	32.25	6.55
33 x 4	33.35	6.75
34 x 4	34.50	6.90
36 x 4	36.75	7.25
38 x 4	38.95	7.65
40 x 4	41.20	8.00
42 x 4	43.35	8.35
30 x 4½	38.50	7.60
32 x 4½	41.15	8.05
34 x 4½	43.75	8.50
36 x 4½	46.35	9.00
38 x 4½	48.95	9.50
40 x 4½	51.55	10.00
42 x 4½	54.20	10.45
34 x 5	53.90	10.05
36 x 5	56.95	10.60
38 x 5	60.05	11.15
40 x 5	63.15	11.65
42 x 5	66.25	12.25
36 x 5½	66.50	11.95
38 x 5½	70.20	12.60
40 x 5½	74.00	13.15
42 x 5½	77.75	13.80

White Steam Cabs Make Their Appearance.

Two White steam taximeter cabs have made their appearance—the first of the cab output of the White factory. They are of 20 horsepower and of the convential design of such vehicles, and are equipped with American taximeters.

RICE AND JOHNSON THE BIDDERS

Identity Disclosed of Prospective Purchasers of Pope-Waverly Plant—Their Offer Uncovers a Big Cash Balance.

September 7th is the date set by the Chancery Court of New Jersey for a hearing on the petition of the receivers of the Pope Motor Car Co., for instructions as to whether or not they shall accept the offer made for the Pope-Waverly plant in Indianapolis. The hearing will be held in Chancery Chambers, Newark, at 10 o'clock a. m.

The petition was presented to the court on Thursday last, and contrary to first reports, it disclosed that the bidders for the property are Herbert H. Rice and Wilbur C. Johnson, of Indianapolis, who are the same men who, soon after the Pope failure, formulated and printed a prospectus of the "Waverly Motor Car Co." with a view to acquiring the Pope-Waverly plant. Mr. Rice is, and has been, the manager of the factory, Mr. Johnson being associated with him in the management. The price they have offered for the plant and all rights to the business, except the cash in bank, is $200,000. The amount of this bank balance proves to be surprisingly large. On June 30th last it was $106,420.71.

As is well known, the capital stock of the Pope Motor Car Co. is owned or controlled by the Pope Mfg. Co.

Gramm Locates at Bowling Green.

The Gramm-Logan Motor Car Co. has completed its organization with J. B. Wilson, president; B. A. Gramm, vice-president and general manager; and Fred Bisantz, superintendent, and has located in Bowling Green, O., just south of Toledo. The product will be an improved type of truck, similar to the Logan truck which Gramm designed when with the Logan Construction Co., of Chillicothe, O Several other commercial models are in view.

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The Week's Corporations.

Topeka, Kan.—Auto Carriage Co., under Kansas laws, with $15,000 capital.

Jacksonville, Fla.—Ideal Auto Manufacturing Co., under Florida laws. Corporators—Hugh Partridge, T. A. Stewart, and C. E. Clarke.

Miilwaukee, Wis.—Wisconsin Automobile Exchange, under Wisconsin laws. Corporators—L. Deetjen, A. F. Eckstein and Theodore Deetjen.

Chicago, Ill.—Straight-Roberts Auto Co., under Illinois laws, with $75,000 capital; automobile business. Corporators—J. R. Roberts, J. J. Straight and N. Goltra.

New York City, N. Y.—Gyroscope Automobile Co., The, increase of capital from $5,000 to $100,000. Attorneys—Palmer & Sereles, 68 William street, New York City, N. Y.

Pittsfield, Mass.—Motor Transportation Co., under Massachusetts laws, with $50.000 capital; to manufacture automobiles. Corporators—A. Sampson; R. Schaff, Newton, Mass.

Springfield, Ill.—Four Drive Auto Co., The, under Illinois laws, with $250,000 capital; to manufacture and sell automobiles. Corporators—C. T. Murphy, A. P. Dewey, L. E. Hill.

East St. Louis, Ill.—Mississippi Valley Automobile Corp., under Illinois laws, with $50,000 capital; general automobile business. Corporators—Henry S. Turner, Jr., John H. Phillips, William J. Peck.

Boston, Mass.—Taximotor Cab Company of Boston, under New Jersey laws, with $500,000 capital; to manufacture motor vehicles. Corporators—Cornelius A. Cole, Richard F. Tully and Franklin Vreeland.

Lowell, Mass—Lowell-American Automobile Co., The, under Massachusetts laws, with $100,000 capital; to deal in automobiles. Corporators—John F. Spaulding; Moses Lahue, Lowell, Mass.; Jesse G. Hanson.

New York City, N. Y.—Saratoga Auto Top and Body Co., under New York laws, with $15,000 capital. Corporators—Adolph J. Shary and Anna D. Shary, 336 West Seventieth street; Henry A. Blumenthal, 135 Broadway, New York City, N. Y.

Plattsburg, Pa.—Aldridge Roller Bearing Mfg. Co., under New York laws, with $200,000 capital; to manufacture vehicle bearings. Corporators—L. J. Aldridge, Plattsburg; M. F. Aldridge, Dr. A. W. Fairbanks, Chazy, Pa.; B. G. Hitchings, New York City, N. Y.

McCue Will Make Parts, Not Cars.

Despite the published reports to the contrary the McCue Co., Hartford, Conn., will not engage in the marketing of complete cars. The concern merely has added automobile parts and chassis to its older business of supplying carriage parts to the manufacturing trade. Its new line will include a complete line of forgings, brake and control levers, hubs, bearings, and axles, and it will be able to produce an assembled chassis, ready for body or with body in the white. No finished cars will be delivered, however, and the predicted "McCue-Hartford" will not appear.

"Desert Flyer" Will Leave Nevada.

After they have succeeded in selling about 10,000 shares of stock to citizens of Council Bluffs, Ia., the promoters of the Independent Transportation Co., which has been organized there, will have the Nevada Motor Car Co., with which it is interrelated, make a number of big passenger and freight cars for service between Council Bluffs and Omaha. The Nevada company is to move from Reno to Council Bluffs and establish its factory, arrangements for leasing a factory at Washington avenue and North Main street being under way. So far the chief product of the Nevada concern, which has been capitalized at $500,000, has been one "Desert Flyer," an immense car weighing five tons, capable of running on prairie, desert, street or railroad tracks.

Kokomo to Celebrate an Anniversary.

Kokomo, Ind., made famous by the Haynes and Apperson automobiles, and more recently by Will Hodge in Booth Tarkington's play, "The Man from Home," will celebrate the fifteenth anniversary of the motor car industry there. An invitation will be extended to all Indiana motorists to participate in the festivities, George Ade included. Automobile races, a parade, gymkhana and other entertainment will be given to make the day, September 2, a great one.

New Haven Invites Bids for a Runabout.

Bids for an automobile runabout are being solicited by the board of fire commissioners in New Haven, Conn. Sealed proposals for a machine to meet the board's specifications, which are on file, will be received up to September 2. Forms and information may be obtained from S. J. Metzger, secretary of the board.

Rutz Joins New Departure Staff.

W. F. Rutz, formerly roving representative of the Continental Caoutchouc Co., has joined the staff of the New Departure Mfg. Co., Bristol, Conn. He will be identified with the recently instituted ball bearing department of the company.

Arbuckle Becomes Winton Supervisor.

Sales Manager Churchill, of the Winton Motor Carriage Co., has appointed George Arbuckle chief of Winton supervisors. Arbuckle has been on the Winton staff since 1902 and is well known to the trade from coast to coast.

Baker to Sell Perfection Springs.

E. F. Baker, of Boston, has joined the forces of the Perfection Spring Co., of Cleveland. He will have charge of the territory east of Buffalo.

In the Retail World.

The Gyroscope Automobile Co., of New York, has certified to a large increase of capital—from $5,000 to $100,000.

The Michigan Automobile Co. has opened a garage on Sixth street, Red Jacket, Mich. It will be in charge of Paul Pawler.

The Wilson Automobile Co., of Wichita, Kan., has been sold to J. H. Butts & Son. The business will be continued at 118-120 South Lawrence avenue, its present location.

The Hoff Automobile Co. has been organized in Tucson, Ariz., and has taken a location at Broadway and Scott streets. The concern will do a renting, repair and agency business.

The Irvin Automobile Co. has started business in Jefferson, Ia., headed by Edward Irvin. In addition to handling the Mitchell, the concern will do a general garage business.

The Glens Falls Automobile Co., of Glens Falls, N. Y., has moved into its new three story brick and concrete garage at the top of Glen street hill on Trunk Line road. The building has storage capacity for 100 cars, and is equipped with repair department, paint shop and all modern improvements.

The small amount of $21.35 is involved in an appealed case which is to be tried before the Circuit Court at Portland, Ind., but the question at issue is somewhat important. Arthur V. Jones, of the Jones Cycle and Automobile Co., Portland, won in a suit tried before Squire A. G. Lewis, a local magistrate, wherein the Bird-Sykes Co., of Chicago, sought to recover $21.35 for repairs on an automobile. Jones resisted the claim on the ground that the plaintiff company had sold the automobile to him, and that the repairs were to be furnished by the sellers.

Where Imitation is Made Expensive.

That trading in imitations has its dangers from a legal standpoint has been again emphasized by the action of an English court in imposing a fine and costs amounting to over $250 on a London and Paris firm for selling imitation De Dion automobile parts as the genuine. It was proved that the defendants had supplied customers with valves, represented as of De Dion manufacture, that were De Dion only in form and appearance, and the court was prompt in punishing the false trade description.

Wants to Get Rid of Apprentice.

One of the first apprenticeship cases in years to get into court has developed through the action of the Cadillac Motor Car Co., of Detroit, Mich., in seeking to be relieved of its parts of a contract with John Bunge concerning his son, Ernest T. Bunge. The company claims the boy did not keep his part of the contract, and therefore asks that the agreement be declared void.

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UNUSUAL SUIT OVER DISCOUNT

Maker and Agent Lock Horns Over Parts Used in Repairing Car at Factory—Verdict for Agent.

Judge Hodson, in the municipal court at Buffalo, N. Y., has decided in favor of the defendants, the Centaur Motor Co., a suit brought by the Winton Motor Carriage Co. of Cleveland, Ohio, which involved an unusual and interesting point.

It appears that in 1907, when the Centaur company was the Buffalo agent for the Winton cars, an automobile was sent to the factory for repairs. In the course of the repairing, new parts to the value of $211.98 were incorporated. When the car was returned to Buffalo, the bill rendered included the full value of these parts. The Centaur people refused to pay it, claiming that under the terms of their agency agreement they were entitled to 25 per cent. on all parts. The Winton company declined to allow the discount and the suit resulted.

In his opinion Judge Hodson says:

"It seems to me that the contention of the defendant is reasonable. It is admitted that he would be entitled to the discount if the parts put on had been sent to Buffalo unattached. I am unable to see why it interferes with the defendant's rights that the parts were sent attached to the automobile. No matter how they got here, they were delivered to the defendant's order and he should have the commission."

British Imports and Exports Shrinking.

British imports of automobiles, chassis and parts have shown a steady increase for the first six of the seven months from the first of the year the total for the seven months ending with July amounting to £2,598,076. Although marked with monthly increases this total is not quite so large as that of last year for the same period, which was £2,934,688. During the seven months period of 1908, the gross imports of complete cars were 2,724 machines, having a value of £986,571, while incomplete chassis to the number of 1,882 were imported, with a value of £608,679. By far the largest item, however, was the importation of parts which for the period reached £1,002,826. The returns for the month of July show a decrease of £34,808 as against the importation of cars, chassis and parts during July, 1907, making the trend of the month at variance with those which preceded it this year. Of complete cars 421 were imported during the month, having a value of £145,142. The number of chassis imported was 306, valued at £99,076, while the importation of parts aggregated £166,760, making a combined total of £410,978 as against £445,786 in the corresponding month last year.

Falling off in the British exports is indicated both in the returns for July and for the seven month period. While the total in July, 1907, was £108,836 the figure for July of this year is but £83,993. The latter total was made up of the exportation of 137 complete cars, having a value of £54,665; and 5 chassis, valued at £1,725, together with parts to the amount of £40,730. The gross shipments during the seven months ending with July are returned at £677,139, which contrasts with £692,542 in the similar period last year.

Two New Travelers for Winton.

The Winton Motor Carriage Co. has engaged George H. Smith and Charles S. Calvert to cover eastern and western territory respectively. Smith was formerly Philadelphia branch manager for the White Co. Calvert has for several years sold Wintons in Newark, N. J., as a member of the firm of Calvert & Zusi. He has, however, disposed of his interest in the business.

Motor Stages for Michigan Promoters.

"From Hancock to Houghton" is the battle cry of Michigan promoters who are organizing a $50,000 company to operate a line of automobiles between the two cities across the Portage lake bridge. The cars to be used are 20 passenger machines, such as have proved highly profitable between Red Jacket and Laurium, Mich., and on other Michigan lines.

Kissel Doubles Capital and Will Enlarge.

The Kissel Motor Car Co., Hartford, Wis., has increased its capitalization from $100,000 to $200,000. Much of the added money will be used in the construction of a four story, 50 by 130 feet, addition to the plant, which when conpleted about Nov. 15 will enable the company to produce its own tops, fenders, hoods and other parts.

Revolutionizer Coming from Georgia.

With a capitalization of $100,000, the Atlanta Motor Co., of Atlanta, Ga., will shortly commence to "revolutionize automobile manufacture" with a device invented by William Knox Cleveland for applying power to all four wheels. Associated with Cleveland are Herbert L. Wiggs, Eugene Callaway and V. L. Smith.

Aurora Formally Declared a Bankrupt.

The Aurora Motor Works, Aurora, Ill., having been formally adjudicated an involuntary bankrupt, Thomas S. Huntley, as referee in bankruptcy, has set September 7 as the date for the first meeting of its creditors. It will be held in the court house at Geneva, Ill.

To Make Runabouts in Waldron.

A runabout at $500 is promised as a Waldron, Ill., product, the Waldron Runabout Mfg. Co. having recently been organized in the little village. Work has already been commenced on the new factory which the concern will occupy.

BIG BRITISH MAKER GOES UNDER

Gilt Domes and Marble Halls Fail to Save Argyll, Ltd.—Liabilities Total More Than $4,600,000.

One of the first of Great Britain's moderate price car manufacturing concerns, Argyll Motors, Ltd., is in hot water, threatened with bankruptcy and dissolution. Payment on its June debentures had to be passed and an "extraordinary general meeting" of the shareholders was called. The company had a remarkable rise from the ashes of a derelict cycle parts manufacturing concern known as the Scottish Manufacturing Co., of Bridgeton, Glasgow. Its early cars were assembled around standard motors and sold at so modest a price as to create an enormous demand.

This demand was made the basis of a $2,500,000 capitalization and stock flotation. The biggest exclusively motor car works in Europe was built on the shores of Loch Lomond, at Alexandria, near Dumbarton, which besides a general de luxe effect throughout, had gilded domes and marble halls that quite astounded the thrifty and cautious Scotch business men of the locality. In addition to the money from the stock more was found necessary, and a bond issue of $850,000 was put through. Having been unable to meet the interest payments on this and with its affairs in desperate shape, the stockholders were called together by the directors.

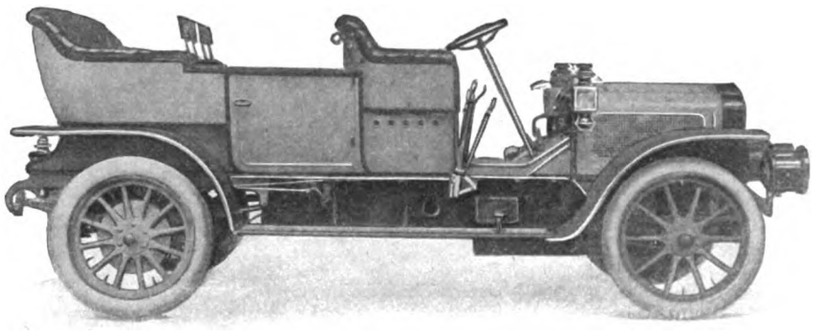
At the meeting the shareholders were told that they would have to agree to the company's voluntary liquidation or the creditors would throw it into compulsory bankruptcy. Voluntary liquidation was therefore agreed upon, with grumbling at the haste of the proceedings. The liabilities amount to $4,664,050 and the assets to $3.808,790. An effort at reconstruction is being made.

Too Much Grand Prix Ruined Weigel.

Having in a measure staked its business future on the probability of its cars making a good showing in or winning the Grand Prix race, Weigel Motors, Ltd., an English concern which has gained both fame and notoriety through the exploits of its chief, has gone into the hands of a receiver. Holders of the first debenture bonds objected to the fact that they did not get their interest payments. Over $15,000 was spent by the firm in competing in the Grand Prix, at a time when the company was badly in need of ready money. Weigel himself is credited with having said before the race, "If I win or go near I shall expect two or three years' good trade on my lines. If I do not, I lose a couple of thousand pounds." The poor showing of the cars and the accidents that befell them increased the loss, and brought about the receivership.

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THE 1909 WHITE STEAM CARS



During the coming season, the White Steam Cars will be built in two distinct models which, while differing widely in size, in power and in price, will follow the same general lines of construction. The horse-power ratings of these cars are based on the actual power delivered at the rear wheels, not merely on formulas or on the power delivered at the engine.

The larger of the new cars (shown in the above illustration) is known as the Model "M." It is rated at 40 steam horse-power and sells for $4,000, f. o. b. Cleveland, equipped with acetylene headlights and tank, oil lamps, horn and tool kit. The wheel base is 122 inches; the front tires 36 x 4 inches and the rear tires 36 x 5 inches. The car is regulary equipped with a straight-line seven-passenger body.

The smaller of the cars will be known as the Model "O." It is rated at 20 steam horse-power and sells for $2,000, f. o. b. Cleveland, equipped with oil lamps, horn and tool kit. The wheel-base is 104 inches and the tires, both front and rear, are 32 x 3½ inches. The car is regularly equipped with a straight-line five-passenger body.

The power plants of the two models are identical in design, the only difference between them being in the dimensions of the various parts. The principal mechanical change in the new cars, as compared with previous White models, is in the engine. The new engine is fitted with the Joy valve mechanism, instead of the Stephenson valve mechanism. The valves are driven from the connecting rods, as are the pumps. The eccentrics are done away with and the cylinders are brought close together, permitting the use of a short one-piece crank-shaft, with but two main bearings. The number of parts in the engine is reduced by one half and the entire construction greatly simplified.

As in previous models, the generator — the simplest steam-making device ever designed — consists simply of a series of coils of steel tubing joined together. The regulating system, whereby the temperature and pressure of the steam remain constant without in any way engaging or requiring the attention of the operator, is similar to that in the 1908 cars.

A Circular containing full details of the New Models will be sent on request.

THE WHITE COMPANY

CLEVELAND, OHIO

PITTSBURG, 138-48 Beatty St.
SAN FRANCISCO, 1460 Market St.
NEW YORK CITY, Broadway at 62d St.
PHILADELPHIA, 629-33 N. Broad St.
ATLANTA, 120-122 Marietta St.
CLEVELAND, 407 Rockwell Ave.
BOSTON, 320 Newbury St.
CHICAGO, 240 Michigan Ave.

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Impressive Recovery of the Industry.

When the dubious outlook following the panic of last fall is considered it appears not alone that many of the storm signals were heeded in season to avert disaster, but that despite the unpropitious outlook an impressive volume of business has been done during the first half of the present year. A clue to the volume of sales made by the American makers during this period is furnished by the report of the receivers of the Electric Vehicle Company in which the income from the Selden royalty, which is figured on a 1 per cent. basis on all cars actually sold, is set down as $236,915.77. Working on this basis, and making practically no allowance for the sales of October, November and December, when the series of shows and the panic combined to stifle almost entirely the usual business of that season, it is fair to allow a gross income from sales of approximately $24,000,000 to the makers who are numbered with the Association of Licensed Automobile Manufacturers.

A careful canvass of the remainder of the industry shows a probable output of 77 other manufacturers amounting to no less than $23,190,000. This total includes a conservative estimate of the gross business done by the established makers of gasolene, steam and electric cars, and ignores a number whose income is more or less doubtful. In addition, it is unquestionable that at least $2,000,000 worth of business has been done by importers in the sale of foreign built pleasure cars and taximeter cabs, during the period referred to—January to July, inclusive.

On this basis, it is possible to conservatively place the gross sales of the entire industry at $50,000,000, which probably is an under-estimate. In addition to this sum, a large volume of sales of second-hand cars to new purchasers also has been consummated, but it is not possible even to guess at the value of that department of the industry. The movements of the second hand market, while practically an unknown quantity in the aggregate, constitute a tremendous factor in the annual turnover of money in the industry. In the export field, though no gain has been shown as compared with the corresponding period of a year ago, the total volume of business during the first six months of the current year, has been upwards of $2,970,000, of which $2,634,606 was the valuation of cars exported alone.

It is questionable whether any other industry producing a finished article can boast as creditable a showing. In place of the general downfall which at one time appeared to threaten, enough business has been done to more than fulfill the expectations of the most optimistic, the majority of manufacturers have been able to clean up their outputs without difficulty, and in place of the patching up process which might have been anticipated at this time, they find themselves enabled to go ahead with their plans for the coming year with clean assembling floors and wholesome balance sheets.

Latitude of One-Design Plan.

Not alone mechanical and constructional advantages attach to the policy which seems to be growing in favor with manufacturers, of making whatever variety of chassis their line affords one simply of size rather than design. There exist commercial or selling advantages, as well, which the men who are in the field are in a position to appreciate.

A preponderating proportion of makers long since have abandoned the idea of attempting to supply from one factory every type and size of car that the immense public may have a mind for, and while permitting a wide range of choice as to body and fittings, have latterly inclined toward a reduction of chassis styles and a concentration on a few models or even one. In some notable instances where more than one chassis is supplied, each type is distinguished from the others chiefly in the scale of its dimensions, the features of design being uniform in all. Thus the smallest chassis is but a reduction of the larger ones and whatever points of excellence are to be found in one are to be found in all.

Production is simplified in such a case by what the models have in common in the choice of metals, methods of testing and the assembly. There is not the diversity of single, double, four and six cylinder engines, shaft and chain drives, sliding gear and planetary transmissions, and the multiplication of problems that are born of trying to make one factory force master the manufacturing difficulties of several radically different types and handle them all in a smooth and steady flow.

But as production must of necessity take direction from sales needs and policy, there must be justification in the latter, also, before a final commitment to the one design plan. Unlike a wholesale merchant, a manufacturer's success and patronage is not dependent upon his ability to supply extremes and variety of market demand, but upon particular and specialized merits of his product. Especially in the automobile field is emphasis laid upon alleged points of superiority residing in certain exclusive or unusual features of design, and if the claims made bear the color of truth and are susceptible of convincing argument they are worthy of the whole line and not for a confinement to but one of the manufacturer's several types.

Having brought the prospective customer to a knowledge of the excellences of a car's material and design, it is then but a matter of helping select the size and power best suited to his requirements, a selection which presents no conflicts of the respective advantages of this or that radically differing feature. The uniformiy of the design through the several sizes permits of a concentrated and cumulative persuasion of the public as to characteristics or superiority,

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under which all of the sizes should benefit.

Where a maker casts an anchor to windward by developing a field for his products outside the pleasure and touring car domain, such as taximeter cabs, town cars, and commercial coaches and wagons, imperative reasons may frequently present themselves for special designs to meet the peculiarities of the service. In such a situation the questions to be met are those of a separate and distinct business.

Variation in body mounting in itself makes a concession to the individual demands of customers that covers a wide range, and before the possible combinations of different bodies with several sizes of chassis have been exhausted, the manufacturer has sounded a lengthy scale. This lessens the necessity for introducing the confusion incident to the presentation of markedly dissimilar chassis designs, and conserves the identity and reputation of the product. The one design plan thus allows great latitude in the markets sought while being a useful extension of the one car production ideal.

For the Rescue of "Fair Fame."

"Dunc" Curry "took a rise" out of the Motor World one day last week. "Dunc" doesn't like the American Automobile Association, or rather some of the officials connected with it, and it has pained him greatly that the Motor World should say anything in its favor and at the same time point out the influences at work in New York to bolster the shallow pretentions of the Automobile Club of America to appear as the dominating factor in American affairs.

Apparently Duncan—the "boys" all call him "Dunc"—was somewhat roiled by publication of the fact that the club has presented many of the "boys" with membership cards entitling them to the privileges of its cafe, library, etc; though far be it from the Motor World to suspect that Curry himself would accept the bit of pasteboard. For, though the residents of Keokuk possibly may not be aware of the fact, Mr. Curry is one of Mr. Hearst's scouts, and Mr. Hearst scarcely would stand for that sort of thing, least of all when a more or less capitalistic club is concerned. "Dunc" however, usually is so well disguised as an "auto editor," that not all of "the bunch" have yet penetrated his disguise, although he wears no whiskers to deceive them. Being "close to the boss" and having his ear at all times, Editor Currie writes only when he feels like it, which is not as often as may be imagined. But when he does write and "take a rise" out of any one, the "other fellow" is supposed to curl up and remain mum forevermore.

In the course of his withering blast last week, "Dunc" performed a large job of mind reading. He declared that the editor of the Motor World and every one else knows that "the A. A. A. is rotten from top to bottom, and that its conduct of tours and racing is a standing disgrace to the fair fame of the sport and the industry." It is a pity to injure Duncan's fair fame as a clairvoyant, but unfortunately we not only know nothing of the sort, but we take no stock in such idle and sweeping assertions. The rottenest thing with which we are familiar are the methods employed to make the A. A. A. appear in that light, nine-tenths of which spring from the personal dislikes and personal grievances of men with axes to grind.

Of course, we are aware fully that the American Automobile Association is not perfect or above criticism. No organization that necessarily must deal with aggrieved or otherwise disgruntled race promoters and competitors and hard losers generally ever will be able to satisfy every one. But we several times have pointed out how the A. A. A. can become near-perfect. We have publicly and specifically nominated several of the "boys" for the various offices within the gift of the association. We even nominated one of them for all the offices and the manner in which our suggestions were utterly ignored by the A. A. A. entitles us to be sorer even than Mr. Curry. It is true we overlooked Tom Moore, and, also, failed to nominate Mr. Curry himself, but it was an oversight for which we apologize. For we know only too well that Fair Fame is longing to be rescued by their protecting arms.

Meanwhile the A. A. A. remains the governing body in America and, as the Motor World stated last week when it aroused Mr. Curry so unduly, only A. A. A. sanctions are recognized, and should be sought. Anyone who does otherwise merely is being bluffed and led astray by men with grievances who are misusing their newspaper connections in trying to "get even." None is better acquainted with this exceeding large truth than Mr. Duncan Curry.

COMING EVENTS

Sept. 1, 2, 3, and 4, Chicago, Ill.—Chicago Motor Club's postponed 1,000-mile reliability run.

September 5-9, Los Angeles, Cal.—Automobile Dealers Association's reliability run to San Francisco.

Sept. 7, Columbus, Ohio.—Columbus Automobile Club's race meet.

September 7, Lowell, Mass.—Lowell Automobile Club's 200 miles road race, on Merrimac Valley boulevard.

September 7, Columbus, Ohio.—Columbus Automobile Club's race meet.

September 7-12, Hartford, Conn.—Connecticut State Fair Association's outdoor show and grand circuit races at Charter Oak Park.

September 11, Springfield, Mass.—Springfield Automobile Club's hill climb on Wilbraham hill.

September 12, Louisville, Ky.—Louisville Automobile Club's race meet at Churchill Downs.

September 14, Chicago, Ill.—Chicago Motor Club's annual economy run.

September 20, San Francisco, Cal.—Olympic Athletic Club's race meet at Tanforan Park.

September 23-24, Boston, Mass.—Bay State Automobile Association's 24 hours endurance run, Boston to Bretton Woods, N. H.

October 6-9, Chicago, Ill.—Chicago Motor Club's 1,000 miles reliability run.

October 7, Philadelphia, Pa.—Quaker City Motor Club's 200 miles road race, Fairmount Park.

October 10, Long Island—Elimination trials for Vanderbilt cup contest.

October 24, Long Island.—Vanderbilt cup contest.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles outlaw race for foreign cars.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show in Madison Square Garden.

January 23-30, Philadelphia, Pa.—Philadelphia Automobile Trade Association's annual show.

February 6-13, Chicago, Ill.—National Association of Automobile Manufacturers' show, Coliseum.

February 27-March 6, Hartford, Conn.—Automobile Dealers Association's annual show.

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THOMAS TURNS FROM OUTLAWS

Refuses to be Used as a Catspaw and Withdraws His Cars—Makes Known His Reasons.

E. R. Thomas, the Buffalo manufacturer who had the wool pulled over his eyes by New York's lovely and limited "Racing Trust" during the excitement incident to the return of the New York-Paris winner, has discovered the real truth of the situation and does not mean to be made an "outlaw" for the benefit of a crafty promoter who is working for his own pocket, nor to be used as a catspaw for a couple of importers who have little, if anything, to lose. The Motor Racing Association, which apparently was organized by, and chiefly for the benefit of T. Francis Moore and Company, talked Mr. Thomas into entering a car in the coming 24 hours race at Brighton Beach, and Mr. Thomas surprised them more or less by promising to enter the self-same car that carried the flag around the world. Then when Mr. Thomas began to reflect that this Brighton affair is to be an outlaw meet, he soon changed his mind and announced that he would stand by the Three A's, enter a car in the Vanderbilt cup and let the Motor Racing Trust go to grass. If a Thomas car does perform at Brighton track on September 11 and 12, it will not be entered by the Thomas factory, nor authorized by Mr. Thomas. This manufacturer, a member of the A. A. A. racing board, who has done as much as any man in America, financially and otherwise, to promote racing and help America establish a name among the nations in international contests, is not a man to be deluded into any new fangled three-ring racing circus which is stirring up strife and creating trouble. Here is what Mr. Thomas said on Wednesday:

"All the Thomas cars entered in the 24 hours race to be held at Brighton Beach September 17 have been withdrawn for the reason that the E. R. Thomas Motor Co. cannot permit any of its cars over which it has the slightest control to participate in a race which has not received the sanction of the American Automobile Association, as it would disqualify our cars and drivers from all events outside of the metropolitan district.

"We believe that racing must be controlled by an authoritative body, and as the A. A. A. has been controlling racing for some years we see no reason why the conditions should change. In assuming this position I feel as if we voice the sentiment of the majority of manufacturers, without whose assistance races cannot be successfully run.

"Under instructions, H. S. Houpt has withdrawn his entries in the Brighton Beach race."

It is said that Mr. Houpt, who appears to be under the Moore "spell," will now enter a car on his own account.

Texas Lad Wins Long Race.

On Sunday, August 23, at San Antonio, Texas, A. Dehymel, a 17-year-old boy, driving a 40 horsepower Stoddard-Dayton roadster, won the 12 hours race on the three-quarters of a mile track, covering 429 miles. It was the first time that young Dehymel, who is an amateur, had ever driven in a track race and he beat a number of seasoned men, including Harry Van Tine, who gained second place with one of the Glidden tour Studebakers stripped for racing. Van Tine finished 14 laps behind the winner. George Robbins's Mitchell was the only other survivor in the field of half a dozen contestants.

Tire trouble was plentiful throughout the race, caused by the poor condition of the track, Van Tine and the winner burning up nearly a thousand dollars' worth of tires. There was considerable skidding on the continuous turns of the small track, which provided occasional thrills for the spectators, but no accidents occurred. The non-survivors dropped out at various stages of the game, making the race rather tame, until the last hour or two when Van Tine made a desperate effort to catch Dehymel.

Holding Court by Correspondence.

Correspondence school methods of administering automobile "justice" have developed in Pennsylvania. Charles Davis, of Wilkes-Barre, the manager of a local garage, received a letter from a justice of the peace in Ambler, Pa., declaring that the motorist had the day before exceeded the speed limit of the town and should therefore appear in court at a stated time. The recipient of the letter replied by sending $5 and saying that he was sorry that he could not appear at the time specified but hoped that the amount enclosed would be satisfactory. In response to this, he got from the justice a communication reading: "Your letter received to-day, including the sum of $5 in part payment of automobile speeding. The fine and costs are $12.50, so you will please send the balance by return mail and avoid a trip to Ambler." The next mail carried a check from Davis to the Ambler justice for $7.50 more.

Hartford Club Chooses Avon Mountain.

After some careful searching and argument, Avon Mountain, North Corners, Conn., has been selected by the Hartford Automobile Club as the most desirable place to hold its hill climb on October 17. A committee composed of H. P. Maxim, C. H. Gillette and W. C. Russell made an attack on this hill in automobiles a few days ago and came to the conclusion that it was "most promising." The mountain course set around with the wildest, most rugged scenery will make the hill climb picturesque indeed, while the chances for spectacular driving on the sharp turns are many.

INSTRUCTIVE TRIALS PLANNED

New York Dealers Program Dust, Smoke and Brake Contests—Horse-Drawn Vehicles to Play Comparative Parts.

Popular and instructive as dust and exhaust trials have been abroad for some time, the first of these to be held on this side of the Atlantic will take place in September, at which time various makes of American cars will have the opportunity of showing their desirable qualities in such refinements as freedom from offensive exhaust and smoke and the ability to move at speed without raising undue quantities of the road surface and scattering it over the scenery. Brake tests will also be held in connection with the trials, and, if possible, comparative demonstrations of stopping in rivalry with horsedrawn vehicles of different kinds.

Central Park, New York City, has been selected as the probable theater of procedure and the tentative dates chosen are September 23 and 24, the New York Automobile Trade Association being back of the project. For the dust trials a 200 yards course will be covered with fine crushed lime stone and dried leaves, and the cars will proceed over it at a pace set by a flag attached to an endless belt arrangement the length of the course, which will be operated in accordance with the readings of a speeding indicator fastened to its controlling mechanism. The judges will be influenced in their decisions not only by their visual observations, but by instantaneous photographs that will be taken of the cars as they whirl along. Not only the effects of the body and running gear construction in dust raising will be considered, but also the effects of different types of tires, the results with hard tires, partially deflated tires and the several styles of studded treads being noted.

After the dust trials, the course will be well wet down, and the exhaust trials held. As in the case of the dust tests, photographs will be taken. It is proposed in the braking tests to have not only automobiles but trotting horses hitched to light sulkies, light road wagons and business vehicles, and the superioriy of the motor cars in making abrupt stops when necessary will only be demonstrated by excelling the performances of the horses in the hands of skilful drivers. Both the police and the park departments of New York City have sanctioned the trials, and will lend all possible assistance to their success, as the data that will be obtained will have great value to them in their dealings with automobiles in general.

The exhaust trials, particularly are looked forward to by the police department as likely to show results which will justify the exclusion of smoking machines from the parks. Many owners have claimed that smoke is a necessary accompaniment of motoring.

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CONDITIONS FOR LIGHT CAR RACE

A. C. A. Outlines Its "Invitation" for American Support of Its Anti-American Program—Entry Fee $200.

After a meeting of the contest committee of the Automobile Club of America on Monday last, the firm of Mills & Moore announced the adoption of the rules and conditions for the light car race which as a sop for American manufacturers, the club added to its European program, which will be carried out at Savannah, Ga., in November next.

The minimum weight will be 950 pounds and the maximum bore on a basis of four cylinders has been placed at 3¾ inches. According to Mills & Moore, there was some discussion as to whether the bore should not be placed at 4 inches for a four cylinder car. It was found, however, that a 4-inch four cylinder bore would be too big in proportion for the average single cylinder and double opposed motor of to-day.

The length of the race has been placed at 200 miles, over a ten mile parallelogram which will be increased should there be more than 20 entrants.

The race will be run on Wednesday, November 25th, the day preceding the European event. According to the press agents, "this will insure an enormous crowd of spectators which would be impossible at any other date or place," but no diagram of explanation accompanied the statement.

The equivalent of bore for varying numbers of cylinders is as follows:

For four-cycle motors:

Of 8 cylinders	2.65 inches of bore
Of 6 cylinders	3.56 inches of bore
Of 4 cylinders	3.75 inches of bore
Of 3 cylinders	4.33 inches of bore
Of 2 cylinders	5.80 inches of bore
Of 1 cylinder	7.50 inches of bore

A provision has also been made for two-cycle motors, the bore on a basis of four cylinders being 3.18 inches, and for three cylinders 3.65 inches.

The entry fee for the race has been fixed at $200 for one car, $300 for two, $350 for three, and $400 for four cars.

"Rules" for Cross-Continent Contest.

Although it has already been frowned upon by the National Association of Automobile Manufacturers and by the American Automobile Association, the proposed stock car endurance contest from New York to San Francisco and back is still being cheerfully boomed by the New York newspaper which is championing the idea. Even a schedule and a set of rules have been formulated and published, providing for the start from New York on July 4th next, on a 49 days trip, the outward journey to be through Rochester, Cleveland, Detroit, Chicago, Omaha, Cheyenne, Ogden and Reno, to San Francisco, and after a 24 hours stay in the latter city, the return to be through Los Angeles, Goldfield, Ely, Salt Lake City, Denver, Kansas City, St. Louis, Cincinnati and Pittsburg to New York.

The rules have elaborate provision for the carrying of reporters, mechanics, spare parts and baggage, and stringent regulations as to repairs, replacements and running time, the whole mixture being flavored with generous sprinklings of phrases such as "if conditions permit," "if possible," "as frequently as practicable," and "in the good judgment of the contest committee." The contest was originally announced as a race, but the path of wrecked speed laws, smashed vehicles, and dead and wounded cattle, people and chickens that a speed race would leave in its wake presented a prospect that resulted in a radical modification to "endurance" contest.

Victorious Thomas En Route to Buffalo.

Buffalo has made elaborate preparations for the reception to the victorious New York-Paris Thomas car, which will arrive in that city next Saturday.

Before leaving for Buffalo, the car carrying Schuster, Miller, Montague Roberts and George McAdam, accompanied by some of the Thomas representatives, made a trip to Oyster Bay last Thursday, where the party was warmly received and congratulated by President Roosevelt at his residence. When the drivers were presented to the President, there was considerable mutual delight and when the Strenuous One saw the flag that had been carried around the world, he was proud of the boys. Mr. Roosevelt listened with great interest to Schuster's stories and anecdotes concerning the wild beasts encountered on the trip through Siberia, and seemed amused when the driver told him that the worst roads on the trip were found right in America.

Following this reception the car returned to New York, where an illustrated lecture on the great race was delivered by Orrel A. Parker at the Automobile Club of America. On Monday, August 24, the car set out for Buffalo, its native city, making stops at Poughkeepsie, Albany, Utica, Syracuse, and Rochester.

To Welcome the Olympian Athletes.

New York motorists, both private owners and those connected with the trade, are going to see to it that the reception to the victorious American Olympian athletes on Saturday next does not lack a glorious and spectacular aspect so far as the automobile is concerned. Nowadays no celebration is complete without a procession of motor cars to carry the honored ones and when the formal joyesse is tendered to the conquering heroes on Saturday, August 29, W. I. Fickling, chairman of the automobile division, will see that things are done with some class. He has made a general call for owners and dealers to donate the services of at least 75 cars to carry the athletes and committees.

KANSAS CITY HAS NO GRIEVANCE

Will Continue Affiliation with A. A. A., Despite "Colored" Reports—Has Withdrawn Only from the State Body.

Although the anti-A. A. A. press agents in New York have been indusriously sending broadcast reports that the resignation of the Kansas City Automobile Club from the Missouri State Automobile Association was proof of far reaching dissatisfaction with the American Automobile Association, the arrival of the truth from the West once more places the little band of eastern malcontents in an unenviable light. It appears that purely local reasons were involved; for though the Kansas City club is resigning from the State association, it states specifically that it will continue independent affiliation with the parent body. Its endurance contest next month also will be run under the sanction of the A. A. A. For some reason the treasurer and "chief worker" of the Missouri State Association, R. F. Britton, of St. Louis, has filed a protest against the Kansas City club's action. although in the same breath he claims that he is tired of his job and will hereafter work only for the St. Louis club.

Favors Foreign Routes for Glidden Tours.

Charles J. Glidden is credited with having radical ideas regarding the routes for future contests for the Glidden trophy.

"I believe that the tour of 1909 will be west of Chicago to Denver, and that in 1910 the trip will be made through England, with a possible tour of Europe in 1911," Mr. Glidden is quoted as saying. "The European trips will open the European markets to American cars and will do a lot of good.

"The western trip of next year goes through a territory which will provide great opportunity for development. The European trips to follow will give us an opportunity to show Europe what the American car really is, and altogether we have before us some interesting trips. The tour of this year provided opportunities for American cars and these opportunities were accepted, but the foreigners declined."

The Eagle on the Soup Tureen.

The disgruntled Automobile Club of America finally has accepted the design for the grand prize for the European road race which that New York club will conduct at Savannah, Ga., in November next. The design is by Tiffany and the artist was unusually apt in depicting the spirit of the occasion. The trophy takes the form of a rather deep soup tureen, on the rim of which is perched a disgusted-appearing American eagle, whose talons are entangled in a sprig of laurel and who holds in his beak a small laurel wreath which apparently he is making ready to drop into the soup tureen.

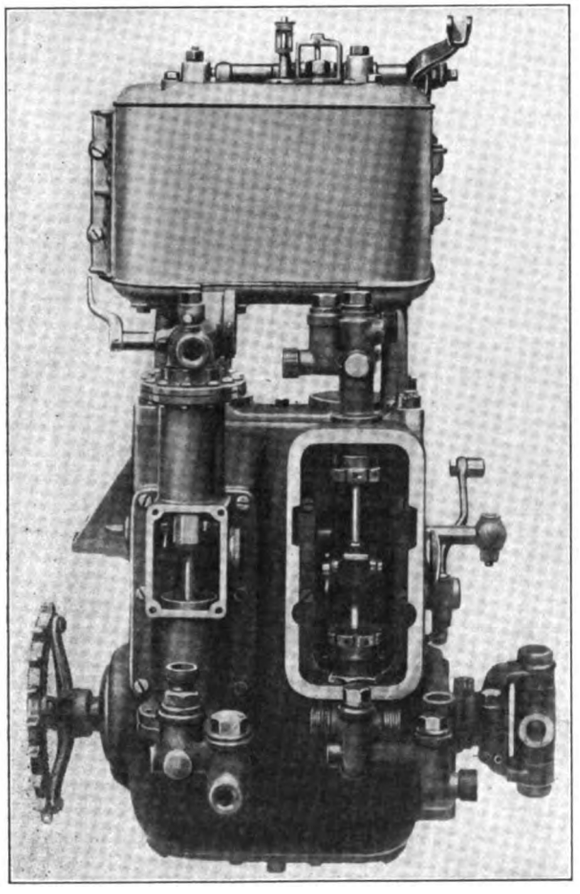
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WHITE ADOPTS A NEW ENGINE

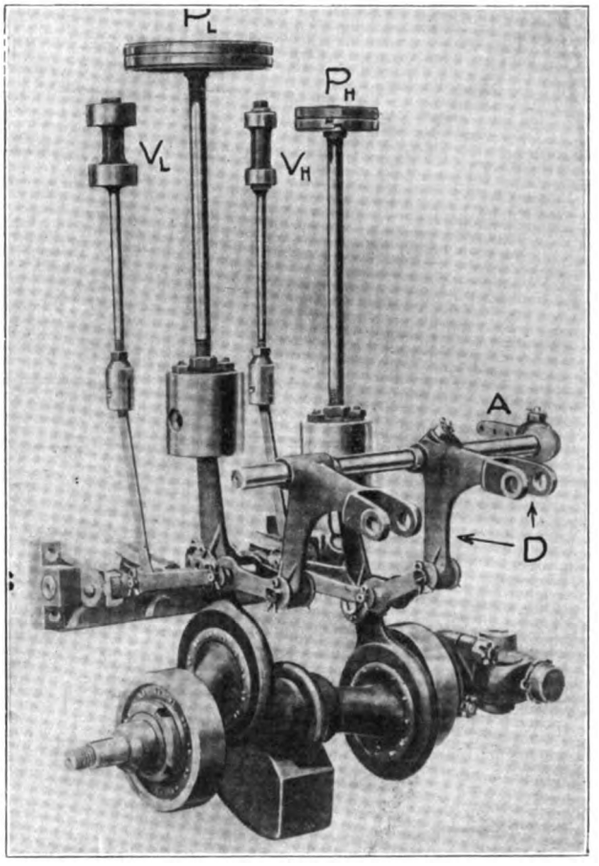
Famous Steam Concern to Depart Radically From Its Present Type—Other Features of Its 1909 Product.

As has been the case during the past two years, the White Company, Cleveland, Ohio, will produce two models of the White steamer for the 1909 season. Two new types have been perfected which will bear practically the same relation to one another as the models "K" and "H" of last year, but will differ in this respect that the smaller, which is to be known as model "O," will be essentially a duplicate in design of model "M," but of smaller dimensions and power. The power ratings of the two will be respectively 20 and 40 horsepower. In many respects they will resemble the cars of 1908 and 1907, this being especially true of the generator and regulating devices, which will be identically the same in detail as those of the models current. The engines, however, are of entirely new design, and present a number of features which are radical in automobile construction.

The characteristics of the larger car are: wheel base 122 inches; tires, 36 by 4 and 36 by 5 inches, respectively; body of the straight line, seven passenger type; frame, armored wood, reinforced with nickel steel plates; front axle tubular; springs, 44 and 55 inches long, respectively, front and rear; brakes of the internal-external type, acting on drums mounted on the rear wheels. The over-all specifications of the smaller machine are: wheel base 104 inches; tires, 34 by 3½ inches all around; five-passenger body; pressed steel, heat-treated frame; front axle of I-beam section; springs, 37 and 45 inches long, front and rear, respectively; brakes as in the larger car.

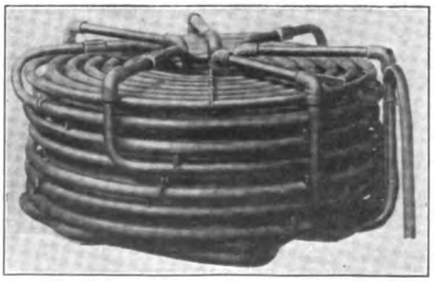


WHITE ENGINE SHOWING PUMP CASINGS UNCOVERED



CRANK SHAFT AND VALVE GEAR OF WHITE ENGINE

The generator, which, with its regulating devices, constitutes what is unquestionably the most efficient and compact producing plant ever devised for locomotive work, comprises merely a close coil of endless tubing of half inch internal diameter, in the present types, and, in the case of the larger car, holding less than one-third of a cubic foot of water and steam. The feed water, which has been previously heated by the engine exhaust, is introduced at the upper part of the system and flowing downward through the heated convolutions of the generator, issues from the superheating coils in the form of highly super-saturated steam. There is thus no great volume of either water or steam in the generator at any one time and consequently practically none of the danger attendant upon the handling of large volumes of steam under pressure. Also, the generation being practically instantaneous, there is practically no limit to its capacity under ordinary circumstances.



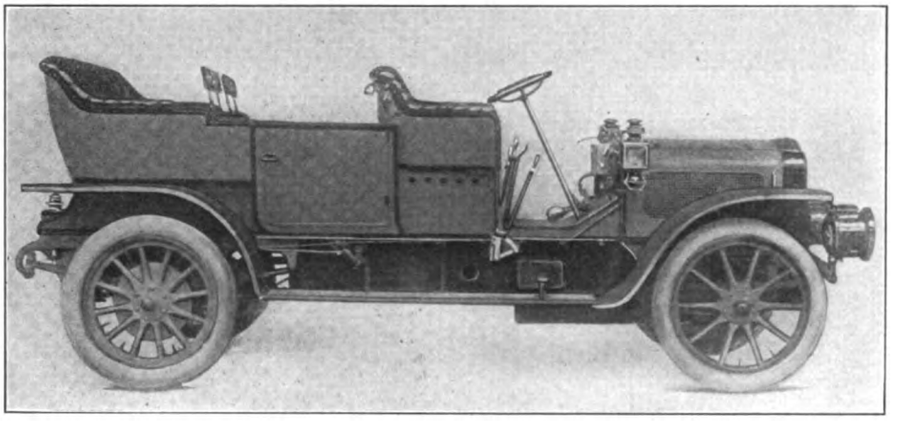
WHITE GENERATOR

A very essential requisite to the successful operation of such a system is the method of regulation. The heat supply at the burner, which is to say, the fuel regulation, and the water supply, must be governed in such a way as to produce a rate of water flow and steam generation sensitive and variable enough to satisfy the instant requirements of the motor in the way of power. This regulation is made absolutely automatic by the aid of temperature and pressure actuated devices which control the fuel and water supplies. By an ingenius system a perfect balance is maintained at all times, so that any rise or fall in steam pressure above or below the normal—such as must be caused when the car is stopped

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or started—is at once followed by alterations in the fuel and water supplies, calculated to compensate exactly for the change and hold the steam pressure constant.

The new engine, which like its predecessor, is of the compound condensing type, is considerably lighter, a great deal simpler, and correspondingly more efficient. Its most striking characteristic is the Joy valve-gear, which replaces the Stephenson link motion formerly employed. In this arrangement, the valve motion is derived from the connecting rods, from which links are taken to sliding blocks which travel in curved guides at one side of the engine casing. The valve connecting rods are coupled to this system at a point outside the guide blocks. The changes of cut-off and reversal of motion are obtained directly by altering the inclination of the guides, and the system is so designed that any alteration of the "cut-off" does not affect the "lead" of the valves, so that the engine runs as smoothly under these conditions as with full steam admission. The new arrangement does away with all eccentrics, and permits a reduction in the number of working parts of nearly one-half.



WHITE MODEL M. 40 HORSEPOWER

The accompanying illustrations show the moving parts of the motor grouped in their proper relation, as well as the exterior of the complete motor, showing the covers removed from the pump casings exposing the actuating gear. The method of connecting the pistons Pl-Ph to the double-throw crank shaft, the ball-bearing mounting of the latter, the actuation of the valves Vl-Vh, which are of the piston type with outside exhaust, from the guides, G, as well as the connection of the pump rocker-shaft D to the valve gear, are clearly indicated. The small arm, A, furnishes a driving connection to the oiler which is mounted on the dashboard.

The sprocket on the forward end of the crank shaft is connected by chain to the fan. A novel provision in this arrangement is that of a ratchet drive for the fan whereby the latter is permitted to spin for some little time after the motor has been cut out. As a result of this any reduction in engine speed is not directly communicated to the fan, and the draught is made more nearly constant than would be the case were the fan to follow directly the engine's fluctuations of speed.

The engine frame and casing are in one piece, but the enclosed parts are rendered accessible through cover plates. The crank shaft may be removed from either end. It has but two points of support, and the ball-bearings on the big ends of the connecting rods are so contrived that they may be removed over the ends of the shaft. The engine is supported on two cross members of the frame back of the front axle, and in such a position that the propeller shaft is perfectly horizontal.

The cylinder dimensions of the two types of motor used in the new models differ slightly from those employed in previous models. In the larger engine, the cylinder bores are, respectively, 3½ and 6 inches, instead of 3 and 6 inches, and the stroke is 4½ inches as before. In the smaller engine, the cylinder bores are 2⅓ and 4¼ inches for the high and low pressure cylinders, instead of 3 and 5 inches; and the stroke is 3 inches instead of 3½. As formerly, varying the cut-off and "simpling" are resorted to for heavy road and starting conditions.

Finality Nowhere in Sight, Says Coffin.

The idea that there is any near approach to finality or stagnation, is no part of the belief of H. E. Coffin, vice-president and consulting engineer for the Chalmers-Detroit Motor Co.

"There is no question but that there will be considerable improvement as time goes on in all types of motor cars," says Mr. Coffin, in discussing the subject. "The gasolene driven machine will be no exception. There will be, from year to year, betterments and improvements in many details. Our knowledge of the gas engine is still far from perfect. The steam engine we have had with us for the better part of a century and yet one can scarcely pick up an engineering journal without reading of some experiment or test which has developed new knowledge upon the subject. It is not reasonable to suppose, therefore, that the gas engine can, within ten years, become a perfect mechanism. Unfortunately, also, up to the present time men who have been most thoroughly acquainted with gas engine construction operation have been so busy along manufacturing lines as to be unable to devote much of their time and energy to the development of the finer points of the art. The well designed gas engine has reached a stage which we may term 'commercial perfection,' and we should use even this term advisedly and with reservation. The next few years will unquestionably see marked improvements both in the internal combustion motor itself and in its various accessories."

Where Prominence Has Its Drawbacks.

"It must be very fine to so predominate in your field of manufacturing that when anybody thinks of a 'steam car' they think of the White," said a prominent gasolene car manufacturer a few days ago to Windsor T. White, president of The White Company.

"It is a fine thing and yet there are times when we wish that the public would keep in mind that there are other makes of steam cars," replied Mr. White. "As you well know, in the early days of the industry, a lot of steam automobiles with ordinary boilers, were built by incompetent people. Most of these cars, of course, went to the scrap heap long ago. But every once in a while some one digs up one of these obsolete steamers and fixes it so that it will run. Sooner or later—generally sooner—something happens to this 'steam automobile,' and we are more than likely to get the discredit for it. For example, about two weeks ago an old Geneva steamer blew up near Plainsville, Ohio, with disastrous results. The published reports of the accident spoke of a 'steam machine blowing up' and some people who do not know our car and who, therefore, do not realize that such a thing is an absolute impossibility with the White, thought that one of our machines was involved. If these people had given any thought to the old crude steam cars, they would undoubtedly have placed the blame where it belongs."

One Firm Obtains Complete Monopoly.

By the terms of a contract recently closed with the government of Montenegro the firm of Laurin & Klement, of Jungbunzlau, Bohemia, is given a 15-year monopoly of the supply and operation of public motor vehicles of every sort, both for passenger and luggage transportation. By the terms of the agreement the firm is to open a postal motor service throughout the principality under a government subsidy. The outcome of the project will result in a vast improvement of communication between the Austrian port of Cattaro, and Cetinge, Niksic, Podgorica and other towns of Montenegro.

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MUST START PROMPTLY OR REFUND

Washington Strikes at a Trick of the Sight-Seeing Trade—Fares Must be Refunded on Demand.

Sight-seeing automobiles have had a regulation imposed upon them in the city of Washington, which if applied in other localities as well, will quite change the methods ordinarily employed in attracting customers. The district commissioners in the Capital have issued an order requiring sight-seeing automobile companies to refund immediately upon request the fare paid by any passenger whenever the automobile fails to leave the designated starting point within at least 10 minutes after the time announced for departure, and to refund the fare if the trip be not completed.

For some time it has been the practice of the sight-seeing companies to have cars standing at different points collecting waiting passengers until enough were secured to make one good load, when the victims would be gathered by the one machine and crowded together into a single trip. Alluring signs in white chalk about the next trip starting at such-and-such a time and the big machine standing apparently ready with plenty of desirable seats and lots of room to spare, would trick the innocent visitor into clambering aboard and figuring himself very lucky. But after waiting sometimes for hours after the time scheduled for departure and then being compelled to leave the car in which he was seated, to be crowded aboard another which would heave alongside already full, the visitor would often be exceeding wroth, but any efforts that he would make to get his money back would meet the derisive ha-ha. Complaints on this score grew to a point where the commissioners felt called upon to take action, the offense being one of long standing and one that is not confined to Washington.

In appearing before the commissioners in connection with a complaint of this character, F. W. Niles, manager of one of the companies, informed the authorities that he had not refused to refund the money, but that he told the aggrieved customers that the matter would have to take the regular course through the general offices in New York, just as in the case of refunds on railroad tickets. The new regulation will compel immediate cash adjustment.

Fire Chief Says Horse is Doomed.

In spite of the sentiment surrounding the much beloved, sugar eating fire horse, which is groomed and petted by the men of the department and admired by the public, the animal will have to give way to automobile fire apparatus, according to Chief James Horan, of the Chicago fire department, who expressed his views in a speech at the closing session of the eleventh annual convention of the National Association of Firemen, in Chicago last Saturday. The chief sees in the successful performance of motor fire engines, trucks and hose carts all over the country, the certain supplanting of the horse.

"The fire marshal now is, indeed, to be commended if his fire appliances of to-day are not ready for the scrap pile next year," said Horan. "We are living in a gasolene age and all the mechanical engineers are unanimously of the opinion that the horse-drawn fire apparatus has seen its day. With the advent of the automobile it is apparent that the five ton engine and the seven ton truck, the two ton hose wagon and the chemical engine, will before many moons be things of the past, and the ever faithful horse, that eats its head off 365 days and nights of the year, must also be relegated to the historic past."

"Wreckers," and How They Work.

Cruising automobile "wreckers," which are nothing more or less than repair cars equipped with spare cans of gasolene, some tubes and casings of various sizes, emergency tools and towing ropes, are one of the latest developments along the most used motor car highways in and around New York City. They are on the lookout for machines that are en panne, and in some cases they actually follow a car for miles in anticipation of a breakdown, the likelihood of which has been made manifest by the sound of the mechanism or some external symptom.

Needless to say, the charges made by the experts of the cruising "wrecker" are sufficiently steep to make up all deficiencies growing out of the long waits between customers, and as the touring automobilists are generally heavy with cash, the cruisers are able to get liberal compensation for the work they do, exercising an acute commercial judgment in deciding whether the disabled machine can be repaired on the road with the tools at hand or whether a long tow back to the repair shop will be necessary.

Motor Wagons for French Army.

Automobiles will be used in connection with the commissary department of the French army if the request of the minister of war, who has asked the French Chambre Syndicate de l'Automobile to arrange to loan the army 80 motor trucks, is granted. It is desired to use the trucks during the forthcoming military manoeuvres in the Blois, Tours and Bourges districts.

Road Train for Russian Royalty.

One of the latest acquisitions of European royalty is a Renard road train, which has been put into the service of the Czar for the transportation of the baggage of the Imperial Court of Russia from point to point. The first train, which was purchased for the Imperial garage in May last, has proved so successful that a second is to be installed.

HAY DEALERS RECEIVE A WARNING

At Their Convention They are Told that Hay Market is Contracting Owing to Use of Automobiles.

A headline in a newspaper published in the city of Toledo, O., reads, "Autos Agitate Hay Dealers," from which one might infer that autos eat hay. This idea would be indeed erroneous, for while cars have been known to try to climb trees, dig up roots and herbs, plunge into shady pools and pluck pond lilies, and do other "stunts," subject to the weather's effect on their natures, no automobile has ever been known to eat hay, either dried or new-mown.

But out in Sandusky, O., nevertheless, the invasion of the automobile is giving the foremost folks of the hay industry veritable hay fever and is roiling them considerably. They held a convention and elected new officers and made speeches and things. Ex-President H. C. Morgan, of the National Hay Association, delivered a hot line of talk in an "ain't is awful, Mabel?" tone, when a timely discussion of the live topic of "The Automobile vs. the Horse," was in progress. Said he: "I want to warn you!" just like that—and then he proceeded as a hay dealer, to warn his fellow members that the market for low grade hay is disappearing with the increase of motor cars. "City folks," he declared, "are using gasolene buggies in place of the hay-fed eqyne!" and then he went further to state that while the market for high priced hay is improving, a new market for cheap hay must be found! New breakfast food factory accounts must be solicited, perhaps. All of which clearly goes to show what ravages the motor car can work.

On the other hand, the straw market doubtless will improve, for, not to mention straw bail, automobile straw rides are becoming fashionable. Around Deal, N. J., and Asbury Park, these affairs are finding much popular favor, so this may help to even up things.

To Curtail Use of High Power Cars.

As a result of the recent scorching and smashup of E. Russell Thomas, at Long Branch, N. J., other motorists will have to suffer. Commissioner J. B. R. Smith, of the department of motor vehicles of the State of New Jersey, has instructed all agents of his department to cease issuing licenses for cars of more than 65 horsepower. The Commissioner reserves for himself the right to grant such permits. This means that an owner of a Thomas "70" or any other high powered stock model touring cars, particularly six-cylinder machines, will have difficulty in obtaining licenses. It is understood that in most cases, according to the commissioner's plans, the high powered cars will not be licensed at all.

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MAYOR HAS A RED LIGHT SCHEME

He Would Have Warning Beacons at Danger Points—Thinks Life Insurance Companies Might Maintain Them.

The mayor of Providence, R. I., has a new "life insurance plan," as he terms it, which concerns motorists on Rhode Island roads. In his opinion, life insurance companies should contribute funds towards making the lives of automobilists safe on the highways. He is in favor of a movement to erect danger posts at hazardous curves and cross roads near Providence and elsewhere in the State, at the expense of life insurance corporations, or millionaire motorists.

"I would suggest," said he, "that numerous white posts be erected at the many danger spots, bearing large red signs that can be discerned at a safe distance from all directions, the posts to bear red lamps and be kept burning all night. The signs now in use are frail and placed so near the ground that many persons do not distinguish them from the ordinary real estate 'For sale' sign, until close arrival at the spot. Objection may be made to the cost, but if the pecuniary value of life could be computed, the expense could easily be subscribed by the millionaire auto owners as life insurance for themselves and the public. Life insurance companies might contribute for protection against the maturity of large policies carried by the rich, reckless auto owners. Such contributions would be good investments."

The mayor's plan is a good one, but it is difficult to fancy a life insurance company parting with any cash unless forced to do so.

Why He Willed His Money to Ballooning.

One of Jersey City's oldest inhabitants, the late Jeremiah Carihanne was no lover of automobiles and he carried his hatred even to the grave. The manifestation of his aversion for them in his last days was most interesting, for out of the ashes of his smouldering dislike, has arisen that which will benefit science, particularly as regards the perfection of vehicles of another sort. He willed his all to the cause of ballooning and aerial navigation, and gave his remarkable reason for it, too.

Upon his death, it was ascertained that Jeremiah was insured for $500. An envelope was found in his room containing his last will and testament, which has just been made public. After giving directions for his funeral, he wrote:

"Knowing from bitter experience what it means to be crippled from rheumatism and be forced to flee from the path of automobiles, I hereby bestow what is left of the insurance money on some man who is trying to perfect an airship, so that there will ultimately be less running about the streets and more flying through the air. I hereby appoint my executor as the man who will decide who is to get the money."

Edward R. Doyle is the executor and he says he will endeavor to carry out Carrihanne's request. The amount he has in his possession is $350.

Making Ready to Expel Scorcher Thomas.

In order to expel E. Russell Thomas, the New York banker, from the New Jersey Automobile Club, the trustees of that organization went to the trouble of calling a special meeting on Tuesday evening of this week. Thomas, who recently drove Harry Levey's 120 horsepower Vanderbilt cup racer on Ocean avenue, Long Branch, at a speed very near the powerful car's full capacity, and at a street corner struck a carriage, smashing it to splinters, killing a team of horses and injuring several people slightly and himself seriously, is at present confined to a sick bed. The club has given him eight days in which to make a reply to its action, and unless he chooses to demand a special hearing, he will be ousted at the next regular meeting of this club on September 14. Inasmuch as Mr. Thomas has repeatedly violated speed laws, a practice that this club is endeavoring to abolish in New Jersey, the members of the organization feel justified in demanding his expulsion.

Real Endurance Run for Kansans.

Elaborate preparations are being made by the Kansas City Automobile Club for its endurance run to be held September 20-30. The route has been outlined and Elliott H. Jones, with a party in a Studebaker car, are out doing the "pathfinding." The proposed itinerary starts at Kansas City, Mo., and jumps over into Kansas, then south via Wichita into Oklahoma, turning at Oklahoma City and running back to the starting place by a different route. The distance will be 875 miles, and the plan is to run about 125 miles per day. The contest will be conducted along the lines of the Glidden tour, with the agony of that event eliminated. The Kansas City Star will award a trophy to the winner. A. A. A. rules will govern the affair.

Denver Offers Half of Entry Fees.

As a special bait to attract entries for their 300 miles stock car race on Labor Day, the newly organized Denver Motor Club has announced that the contestant finishing the race in the short elapsed time will receive a prize amounting to one-half the total amount of entrance fees. This sum will be presented in gold coin and in view of the fact that there are already ten entries at $100 each, the club expects about as many more before the list is closed. The new Colorado organization recently affiliated with the Three A's and the coming contest will be run under A. A. A. sanction and rules.

"RESTRICTED LICENSES" BY MAIL

Massachusetts Unbends Slightly in Its Attitude Toward Non-Residents—How the New Scheme is Operated.

The Massachusetts Highway Commission has solved a problem in connection with licensing non-resident drivers, which is said to be working satisfactorily. Until recently, there has been much trouble experienced by motorists desiring to tour through Massachusetts, owing to delays and red tape incident to registration.

Most of the trouble in such cases was in getting to a place to take out a license without being caught by a policeman and hauled up for not having the license. The commission, under the law allowing it to place restrictions on registrations has now decided to issue certain licenses in response to application by mail, the license to become void unless the operator passes a Massachusetts examiner before the end of the stated number of days, as set forth in the preliminary certificate.

Under this arrangement, when a New Yorker or any other non-resident prepares for an automobile trip into Massachusetts, he will merely write to the commission giving a brief statement of his plans and qualifications. In response the board will send him a "restricted license," on authority of which he will enter the State with his car and operate until he takes the examination. If he passes, the license will be perpetuated, otherwise not.

Kentucky Has Visions of a Motordrome.

That Blue Grass State, which for years has been famed for its love of equine sport, has recently manifested some interest in motor racing at Lexington and elsewhere. In fact, if the ideas of Congressman Joseph Rhinock, president of the Latonia Jockey Club, Vice-President Harvey Meyers, and John J. Ryan, the former track plunger, take shape, Kentucky will become a center of motoring interest, for the three men propose building the first oval track in America exclusively for automobile racing. They contemplate having a saucer constructed along the lines of the Brooklands course in England, that will be 1⅝ miles around, with the turns banked to permit high speed. It will probably be erected on the shores of Licking River. Regular automobile meetings will be held and purses hung up similar to horse races and from the plans laid out, these purses will be of such alluring denominations that the fastest machines and best drivers in the country will be seen there within the next year or so—all of which, however, is in the nature of counting chickens a very long time before they are hatched. Several hundred motordromes already have been constructed—in American imaginations.

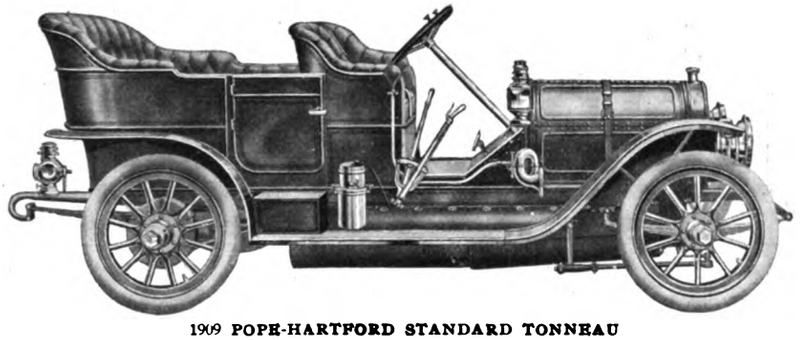
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NEW FEATURES OF POPE-HARTFORD

Many Refinements in 1909 Models—Novelty in Brakes, Clutch and Torque Rod—Striking Body Designs.

Following the same general lines as those of its immediate predecessors, the specifications of the Model "S" Pope-Hartford car, which is to be the 1909 product of the Pope Mfg. Co.'s Hartford (Conn.) plant, have just been announced. Embodying as they do several new and improved structural details while retaining the qualities which have proved most satisfactory up to the present time, the machine seems destined to become a worthy successor to those which have made an undeniable mark in the field during the past two years.

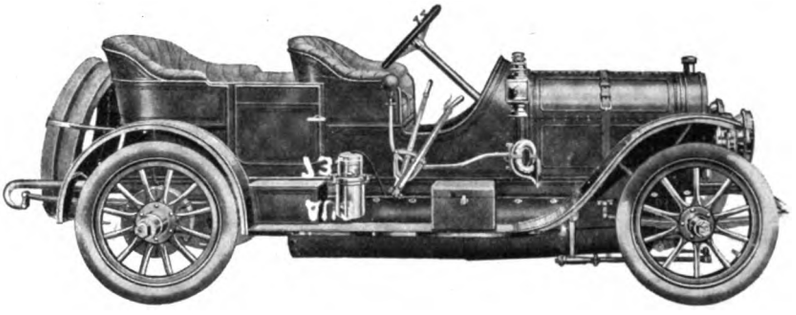
Certain of the characteristics of the 1908 model are retained exactly, or with slight modification. Thus the armored wood frame, the power plant being mounted on a pressed steel sub-frame, is retained, with the slight exception of a new form of rear spring hanger. The so-called "goose-neck" type is now to be employed, its requirement



1909 POPE-HARTFORD STANDARD TONNEAU

being in part, the use of longer springs than before, the rear suspension members being 56 instead of 52 inches long. The springs are now swiveled upon the rear axle tubing instead of being perched in fixed relation to it, thus allowing for any possible tilting of the torque and drive groups as might result from excessive braking or driving strains without straining the spring connections. The overhead valve type of motor is retained, though in entirely redesigned form, and the characteristic radiator profile remains unchanged, despite an alteration in the construction of the hood. The latter in the new model will be made without doors, will be straight sided, instead of having the double curvature of the sides, and will have a new method of attachment. Similarly the mud guards follow the lines already used, but with the addition of leather splash guards between the fenders and the frame line. In body design an entire alteration has been made.

The new touring body is of the straight line type, is much roomier than that of the Model "M", having 4 inches more floor and 1½ inches greater width and depth of seat. The straight type of dash has been adopted, and the finish and trimming is of improved form. Two variations in body design are made possible by the design of runabout and "pony tonneau" bodies, both also of new construction. In the former, the engine is mounted farther back than in the touring car, necessitating some slight alteration in the details of the transmission, and



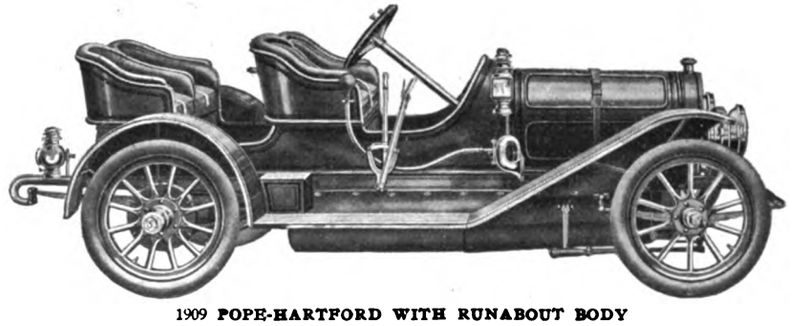
1909 POPE-HARTFORD WITH PONY TONNEAU

the steering column is given a greater inclination. This, coupled wth the increased length of hood, gives a totally different appearance to the machine from that of the touring model, although its wheel base is the same. The second variation is made possible by the use of a very light, low-backed tonneau body, the rear seat of which is placed well forward to give room at the back for tire irons and other equipment. The mounting of the dash is the same as in the case of the runabout, while the lines of the body may be described as a condensed version of those of the touring car proper.

In the power plant, a complete overhauling of the design has resulted in a number of minor improvements and the introduction of several features which are of striking merit. The motor, which like that of the Model "M" car is rated at 30 horsepower, has cylinders which are similar in form to those employed on that model, but mounted in the reverse position. Thus the exhaust is now on the right side of the machine, together with the oiler and water pump—both driven by a line shaft from the forward gear housing, while upon the opposite side is the carburetter, while just forward of it is the bracket upon which the magneto is mounted. Adjacent to this is the timer shaft, which is vertical and driven from the two-to-one group by means of spiral gears. The timer is mounted on a substantial pillar and is raised sufficiently above the level of the crank case to be thoroughly accessible.

The forward end of the crank case has been changed so as to permit of the complete housing of all gears integrally with the main case, and their lubrication by oil baths, fed by the splash of the cranks. A new method of fan mounting also has been provided an ingenius provision for automatic tensioning of the drive being included. The crank shaft has been enlarged and all its bearings lengthened, and this, together with the adoption of special white brass bushings, combines to render the working of the engine at once more reliable and less subject to vibration. The cam shaft and all gears may now be removed without removing the engine from the frame.

The control mechanism leading from the steering wheel to the carburetter, timer and magneto, is neatly arranged in the form of telescopic rods, running across the case in front of the cylinders. The carburetter, which is given a particularly accessible location, is of entirely new design, though following the style used in the current models,



1909 POPE-HARTFORD WITH RUNABOUT BODY

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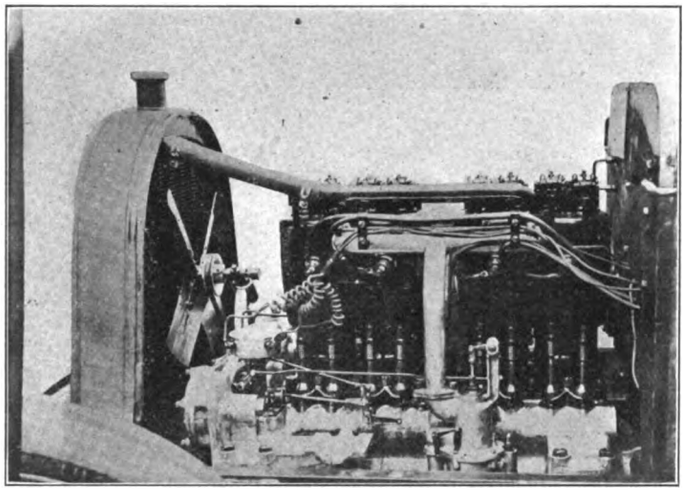
is of the central draught type, and has been worked out with special regard to facility of starting and freedom from flooding tendencies.

Altering the arrangement of the motor has involved a rearrangement of the piping, the new groups being of simple and unobstrusive form, and free from abrupt bends. The cam shaft is mounted on the left side and the rocker method of actuation by means of tappets and overhead arms is retained. The valves, however, are made larger, and with lower lift, in order to secure more silent operation and better freedom of movement for the gases.

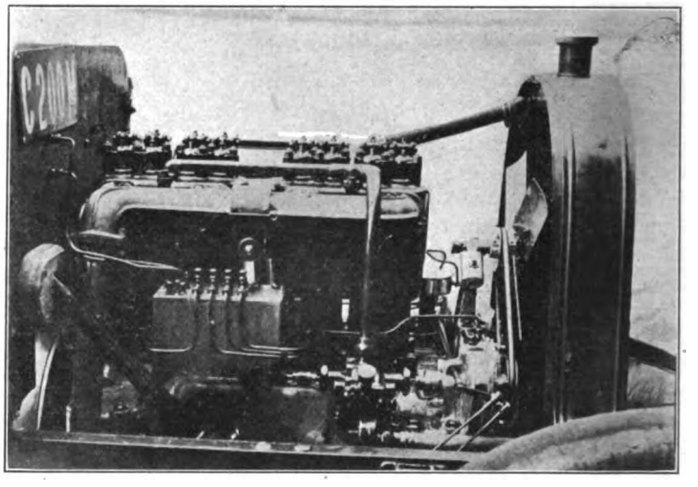
The transmission includes an entirely new clutch, which though of the plain cone type, as was used in the previous model, is of 1¼-inch greater diameter, and is given an entirely original mounting which is calculated to do away with any possible tendency to disalignment with the fly wheel, and to render the action of engagement perfectly even and gradual at all times. The manner in which this is brought about is worthy of special attention. An important feature of the clutch also is the provision for adjustment of any possible wear in the universal coupling which connects it to the driving shaft of the change gear.

The gearset, which is practically the same as that previously employed, is of the selective type and actuated in the conventional manner, all the controling mechanism being enclosed in the gear case. The propeller shaft carries the service brake just back of the case, this being of the contracting type and mounted on a pressed steel drum of 2¼ inches face by 12½ inches diameter. The propeller shaft is equipped with two universal joints and a slip joint—the latter at its forward end, and the rear axle group is of the full floating type, with hub-cap drive of improved and secured pattern. Enlarged Timken roller bearings are used in mounting the bevel gears, and a new method of adjustment is provided for the driving bevel, whereby in assembling an exact adjustment of mesh may be obtained, to secure the least possible resistance and noise in operation.

Except for the clutch and braking devices, the most unique feature of the machine is the torque resisting mechanism in which the usual torsion rod or stay is replaced by a tubular support of trussed triangular form, supported at its forward end by means of a ball and socket joint upon hinged bracket where it is cushioned by buffer springs. In order to carry this, a new tie member has been introduced in the frame, so that the rear gear case support no longer carries any but the dead load of the gearset. This new member, also serves a useful purpose in tying the sides of the frame together.

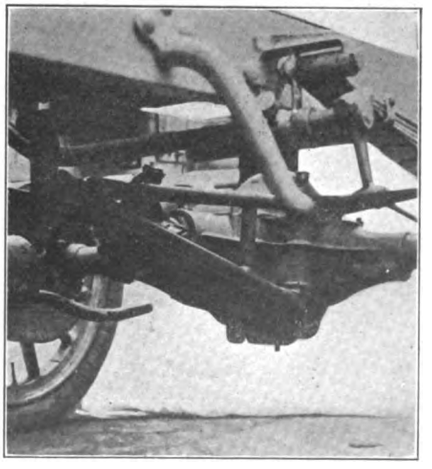


LEFT SIDE OF MOTOR, SHOWING CARBURETTER



RIGHT SIDE OF MOTOR, SHOWING OILER AND WATER PUMP

The rear end of the torque member instead of being rigidly attached to the differential housing, as is ordinarily the case, is swiveled to it by means of a vertical pin, the connection being provided—like every other part of the mechanism where motion is to be expected—with a grease cup. The effect of this is to prevent cramping in the member due to any side swaying of the frame on the springs, or due to any possible transverse movement in the rear axle such as might result from heavy skidding thrusts. The traction drag is taken by the forward ends of the rear springs, by which the fore and aft relation of the axle is preserved. With the swivelling of the springs on the axle tubing, and the absolutely universal attachment of the torque member, which, as indicated by the accompanying illustration, is very strong, despite its light construction, it is practically impossible to conceive of any possible spring motion to which the transmission will not adapt itself without distorsion and without interference with its proper function.



NEW HINGED TORQUE ROD

The rear wheel braking equipment is new, the retarding action taking effect through the hubs instead of the flanges, as is more commonly the case. The diameers of the drums have been increased to 14½ inches diameter, and are actuated by toggle mechanism of very powerful as well as positive action.

The Mounting of Outside Splashers.

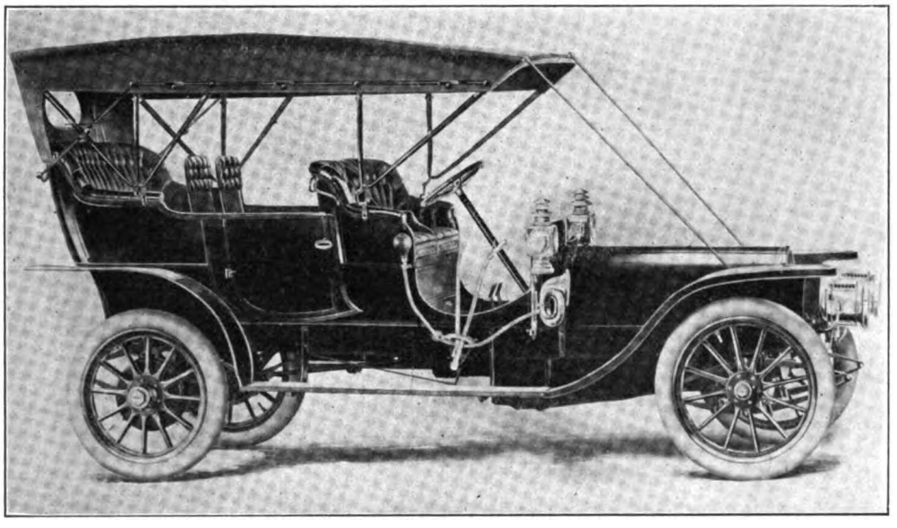
Consideration for appearances has led many drivers to mount splash guards on the inner side of the wheels of their cars, these taking the form of short curtains of canvas or leather to prevent the mud and water flying up on the under body and mechanism of the machine. Because of the axles, it has not been difficult to locate such devices on the inner side of the wheels, but until recently no simple method of applying similar guards to the outer edge of the wheels, for the benefit of pedestrians and other traffic, had been found. The protection of others from splashing which outside guards afford is possible of realization, however, as several devices of this character have been developed. In one type, the guard, which consists of a swinging screen of chain cloth, hangs on a plate with a bearing encircling the wheel hub. The bearing supports the floating plate, from the lower part of which the screen is suspended while the upper part is connected to the frame of the car with a long, yielding spiral spring, which holds it in position.

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NEWNESS IN THE 1909 FRANKLINS

Refinement Rather than Marked Changes the Rule—Governors and Battery Ignition are Eliminated.

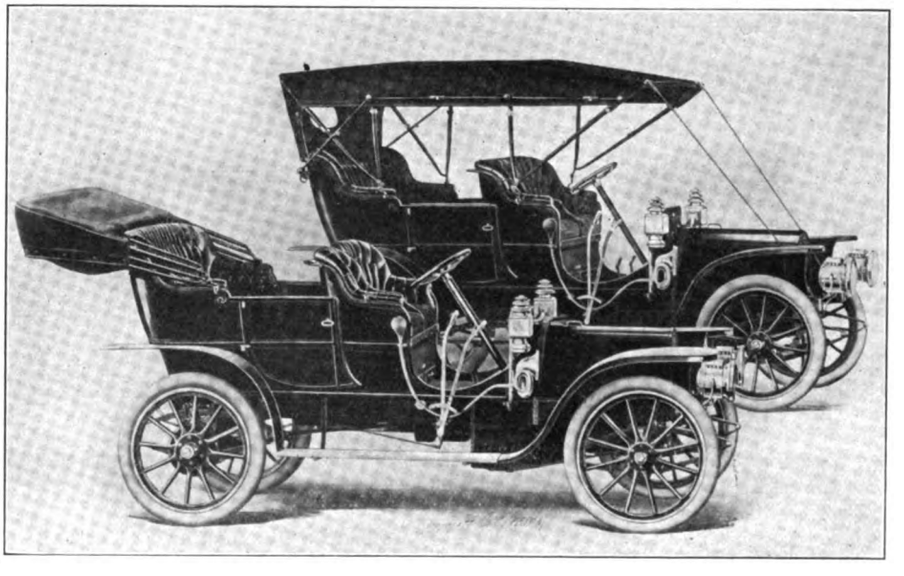
It is significant of the successful operation in actual service of that radical arrangement, the concentric valve gear, that it is to be embodied in the 1909 models of the Franklin cars, as in those of the present season. Another original feature which also is to be retained without material alteration is the auxiliary exhaust at the bases of the cylinders. Indeed, the characteristics of the new models which have just been announced by the H. H. Franklin Manufacturing Co., Syracuse, N. Y., are essentially the same as those of the models now in use. That does not necessarily imply, however, that the 1909 line will be without novelty, nor that it does not differ in a number of respects from that of 1908.



1909 FRANKLIN "SIX", 42 HORSEPOWER

The new Model "G" car, for example, is equipped with an 18 horsepower motor instead of one rated at 16 horsepower. Its dimensions are 3⅜ by 4 inches, bore and stroke. It is built on similar lines to the 28 and 43 horsepower, four and six-cylinder motors, but on a reduced scale. It is a slower running engine, fitted with a front air fan and is slightly reduced in weight. A small increase in wheel base has been brought about in this model as a result of the introduction of wheels of 2 inches greater diameter than heretofore. The wheels are now 32 inches in diameter, shod with 3½ inch tires. The body length also has been increased and is correspondingly more roomy and comfortable. The car is furnished with runabout, touring, landaulet and brougham bodies—the latter being similar in design to those employed on the 28 horsepower car.

Type "D" is the largest four-cylinder car in the line, and is driven by a 4¼ by 4-inch motor, as was the case in the previous model of the same power. Like that of the smaller car, it is equipped with Bosch high-tension magneto but is not furnished with the battery, coil and timer equipment which complete the "double ignition" system formerly employed. The wheel sizes on this model also have been increased by 2 inches, and now are 36 inches diameter. As equipped with the landaulet body, however, this model runs on 32 inch wheels, as being more suitable for town car service. The design of the regular touring and runabout bodies conform to the lines of the six-cylinder models, but they are lighter and smaller to match the lower power of the motor.



1909 FRANKLIN 4 CYLINDER, 28 HORSEPOWER

The six-cylinder model, which is known as type "H," which is the largest car produced by the Franklin Co., is made in three styles of body mounting, namely a seven-passenger touring car, single or double rumble runabout, and seven-passenger limousine. In this model also, is to be found a new type of steering gear, of original design, and of the worm gear type. It is designed to do away entirely with lost motion and replaces the bevel gear type formerly employed on this, and still used on the other models. The wheel base of this type is 127 inches, and its catalog weight is only 2,500 pounds.

Significant of improved methods of carburation is the fact that the governor which has been used on all models heretofore is done away with in the production of the 1909 types. In this connection it should be noted that a change has been made in the position of the carburetter by reversing it, thus adding to the hill climbing ability of the cars as well as improving their response to the demands of service. On the model "H" car, the crank shaft has been redesigned, and is now larger and stiffer than before. On this motor, also, the magneto action is governed by an automatic regulator which has expanding arms pressing against the periphery of the driving gear. The wiring, it should be observed, is led through protected conduits and is thus guarded against chafing and short circuiting as a result of external injury. Another improvement is in the arrangement of the front cheek piece, which may be removed without disturbing the cam shaft. The latter also may be dismounted without interfering with the cheek piece. The attachment of the starting crank has been made waterproof also, and is held in place by a leather stirrup. Several parts have been eliminated and others simplified as a result of doing away with the timer. The motors are thus lighter and otherwise improved in consequence of the "going over" which they have received.

As already indicated, the concentric valve construction which was introduced at the beginning of the present year, as well as the auxiliary exhaust which has been a Franklin feature for several years, is retained. The inlet and exhaust valves being superposed, a true dome-shaped cylinder

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is made possible, with the result that the area of the inner cylinder wall is reduced while the exterior and heat radiating surface is practically unaltered. In consequence of this, the cooling effect is increased. Because the inlet from the manifold is more direct than is possible with the more conventional method of cylinder formation, it also follows that there is less friction to impede the flow of the gas, and a larger charge can be taken in with the same valve area than otherwise would be possible. As the intake valve is well cooled by direct contact with the cylinder head, some little advantage is gained through the reduced expansion of the entering sea.

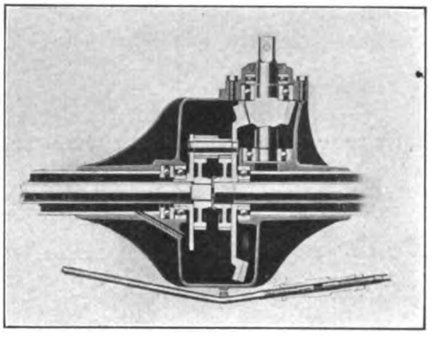
In the type "H" motor an improved method of suspension is employed. The cross rails of the frame are made of angle steel and also support the magneto and oiler in such a way as to reduce vibration to a minimum. Another new feature is the "double heat accumulator," which is used in securing the warm air supply for the carburetter. This consists of a jacket surrounding the auxiliary exhaust pipe with a leader running around and below the engine base to the carburetter, which is mounted on the opposite side. This intake jacket is purely an addition to the steel warm air collector used on the other models. A change in the style and position of the oiler also has been brought about. The Hancock, positive feed, gear driven device is now employed, and it is placed directly against the engine base in such a position that it is maintained at uniform temperature regardless of weather conditions. It is more accessibly placed than before, and is given plenty of free space, so that adjustments may be made readily.

As was the case with the previous models, the two larger cars of the new series will be equipped with selective type transmissions, and the smaller with the "self-finding" gear shift which already is familiar to users of this car. With the selective type of lever, the arrangement is such that whenever the vertical position is assumed, the neutral is automatically secured by means of spring tension. No gridiron plate is used, and the forward and reverse relations are obtained by pressing the lever inward or outward as the case may be when throwing it out of the vertical position. The arrangement of gears and connections is such that it is said to be possible to shift from one gear to another without declutching.

No spark lever is necessary to the control mechanism of the Model "G" cars, because of the automatic spark regulator. The spark levers used on the other two models, however, are retained in position by a new device, doing away with the ratchet arrangement used on the current models.

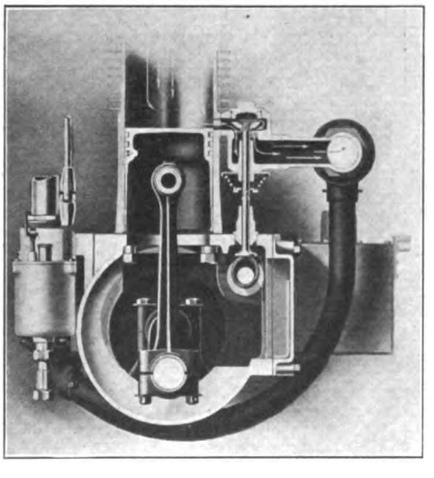
The use of an auxiliary fuel tank is another new feature of the forthcoming models. It is so contrived as to be filled automatically when replenishing the main supply, but cannot be used in the engine until the larger quantity has been entirely used. It is then necessary to turn a three-way cock located on the outside of the frame underneath the driver's seat. This also is an added fitting and supplies means of cutting off all fuel flow in its third position.

Among other alterations may be mentioned the use of Timken roller bearings in the front wheels of all models, the use



1909 FRANKLIN DIFFERENTIAL GEAR

of plain bearings on the steering gears, instead of ball bearings; the use of extensions on the front mud guards so contrived as to prevent the spattering of the motor through the grilled front of the hood; the lengthening out of the engine boot and the elimination of the transmission boot; and a slight change in the method of housing the differential in which rivets have been made to supplant bolts and nuts. Braking



FRANKLIN "DOUBLE HEAT ACCUMULATOR"

areas have been increased, and an anti-rattling device adopted, three-piece toe boards of cast aluminum have been installed, slight changes have been made in the method of constructing the tops, and many finishings which formerly were polished bright are now given a dull finish in assent to the growing demand for the elimination of tawdry trappings on the machine.

Draught Injures Body Finish.

Because the body finish on the average motor car proves to be of anything less durable than that of the average horse-drawn carriage, it is frequently charged that less care is exercised in finishing cars than has been the custom with carriage makers. As a matter of fact this belief, which is in many respects erroneous, fails to account for the extra wear which is brought upon the automobile body through the effect of the fierce impact of the dust and sand which is thrown up by the windage of the car. This takes effect most noticeably on the rear body panel, where the suction of the draught created by the machine itself causes a constant play of dust upon the finished surface. It is the same in its effect as the sand blasts of commercial application, and is charged with much of the same abrasive.

Why Sub-Frames Require Inspection.

In cars which have the power plant mounted on a sub-frame, it is essential that the position and alignment of the latter should be investigated carefully at each periodical inspection. If the frame is too light for its work, or is insecurely fastened, there is danger that it may warp out of line when unduly strained. Although it is customary to provide flexible or universal joints at all points which might be affected by such a disarrangement, the result throws an abnormal amount of labor on the parts of the joints, and causes an extra amount of friction on the transmission producing loss of power. Besides this, the condition may indicate a dangerous weakness in some quarter.

One Cause of Short-Circuiting.

It is quite essential that the fiber racks which are so commonly employed to secure the secondary wiring of the ignition system to the tops of the cylinders, be kept in good order as otherwise there is danger of the wires sagging against the cylinder heads and causing short circuits after the insulation has burned partially away. Difficulty in this quarter is especially apt to result when the wiring has been dismounted a number of times and the screws which hold it down have worn in their holes and become loose. When this is the case, new screws of a larger size should be substituted for the original ones.

How Threads Frequently are Stripped.

It is all very well to attempt to start a refractory nut by slipping a short length of iron pipe over the handle of the wrench. The practice should not be indulged in when drawing up bolts or nuts, however. Generally speaking, the average forked wrench is designed to give a safe leverage over the standard nut which it is made to fit. Increasing the leverage over this amount, and so increasing the pressure brought to bear upon the nut, is almost certain to strip the threads.

Where electric lamps are used for the dash and tail lights of the car they should be wired in series. By this means an effective indication is secured to show whether the rear light is burning properly.

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ABOUT FILLING ORDERS FOR PARTS

Apt Illustration of the Immensity of the Task—System in Vogue in One of the Big Factories.

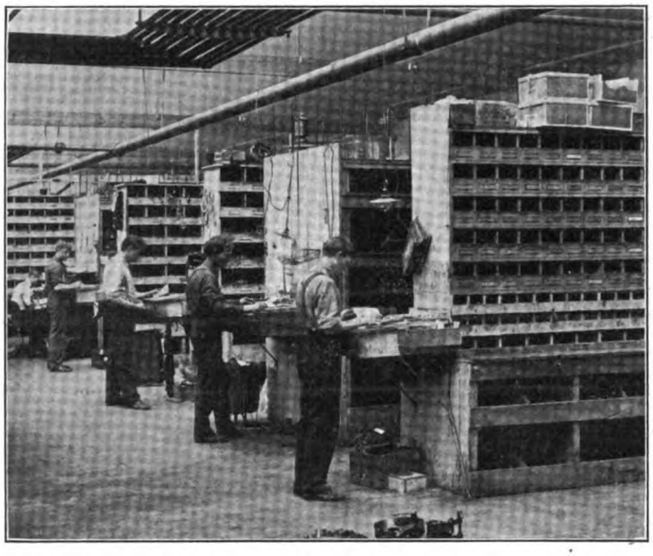
System and dispatch in the filling of orders for parts is now recognized as one of the chief necessities in the best equipped automobile factories, and though all manufacturers see the wisdom for the convenience and satisfaction of their patrons, few have developed the system which makes it possible to supply within 24 hours a duplicate of any part of any car ever built in that factory. Of the few is the firm of Thomas B. Jeffery & Co., who have on hand a duplicate of every part of every Rambler ever manufactured since 1902, and they make the claim that they can ship replacements on the same day the order reaches the factory. Such promptness is due to the organization of the sundry department. Orders are received by the parts order department and sent to the sundry department for filling. Here the parts ordered are inspected by two men to insure accuracy. Again, in the shipping room, the order is time-stamped and double checked to avoid mixing orders in packing. Parts of each and every piece ever used in any Rambler car are carried in stock; the manner in which they are stored and kept track of is shown by the accompanying illustrations.

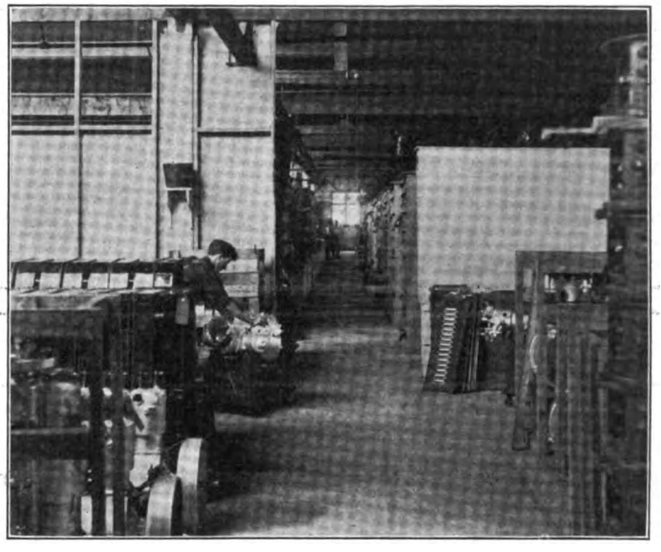
The sundry department has 2,288 square feet of floor space and has 1,500 bins of various sizes, all arranged in sections 8 feet in height. In this room is found only such parts as are most frequently in demand, while in a reserve stock room, with 3,280 square feet of floor space, other parts are kept.

In addition there is the annex, motor stock, transmission stock and axle stock rooms, having a combined floor space of 5,210 square feet.

In the Rambler Parts List there are nearly 8,000 distinct parts, these covering, of course, all models built since 1902, a fact which conveys an idea of the immensity and comprehensiveness of the system.

The fact that there are 14,000 Rambler cars in use, many of them now in their fifth and sixth year of service, makes the equipment of this department very valuable to owners, while the fact that all Rambler parts are made in the Rambler factory enables this company to sell repair parts at astoundingly low figures. Although repair parts may not be needed during the first or second season of operation, this company sees the wisdom of manufacturing and keeping on hand extra parts of all models so that in years to come owners may procure them without delay and at reasonable cost.





TWO VIEWS OF STOCK ROOM AT RAMBLER FACTORY

Scavenging the Motor While Driving.

When driving on open roads no possible opportunity should be lost of scavenging out the cylinders by closing the throttle on down grades and permitting the machine to coast while pure air is drawn into the cylinders. This cools and cleans them at the same time, besides, in the more modern type of cars, providing a slight economy of fuel. The eager rush of the motor after the scavenging period is sufficient proof in itself that it is a beneficial practice.

When an Old Motor Becomes Cranky.

A frequent source of annoyance in the running of a motor which has seen considerable service arises from the lost motion between the connections of the throttle and ignition levers and subjoined parts. In most cases this may be corrected by inserting a tension spring in some portion of the system in such a way it will keep the parts constantly drawn in one direction. Any slackness of the joints will thus be obviated.

ADAPTING AUTOGENOUS WELDING

Brooklyn Man Develops System Using Ordinary Gas and Atmospheric Air—Results of Tests.

As a process approximating the oxy-acetylene method of autogenous welding, but having advantages in economy by the use of ordinary illuminating gas and atmospheric air instead of tanked oxygen and acetylene, a new system, the invention of A. K. Schaap, was given a demonstration last Friday at the garage of the Schaap Automobile Co., Brooklyn, N. Y. The heat attained under Schaap's system is claimed to be in the neighborhood of 4.500 degrees and is sufficient to weld or cut metals much as the acetylene flame does. Like the oxy-acetylene system, the application of the heat can be confined to the area to be treated.

While the use of gas with air under pressure is not altogether new, Schaap's method presents novelty in that the gas and the air have a preliminary mixing before being conducted to the burner where the final combination of air and gas is made. There are thus two points at which the air is carburetted with the gas. In one combination the air is used at a pressure of about one pound while in another it is used at 30 pounds. The gas is used at the pressure at which it ordinarily comes from the meter, which in the case of the tests was something over an ounce. In the course of the demonstration Schaap showed how quickly his flame would cut through an inch thick steel plate, and perform welding and cutting wonders under water. The inventor does not claim to be able to attain as high a heat as with the acetylene flame, which is in the neighborhood of 6,300 degrees, but is satisfied that it is sufficient to meet all ordinary requirements.

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Mathematics for Minneapolis Climb.

Saturday, August 29th, is the date that motor enthusiasts of Minneapolis, Minn., have decided to hold a climb on Columbia Heights, or another suitable location, and plans for running it have been announced. Cars will be divided into seven classes and the winners in five of these will be determined by formula in a manner similar to that employed to decide the various events at the recent Algonquin hill climb, run by the Chicago Automobile Club. This arithmetic-involving calculation calls for the following rule: Cylinder capacity of the car multiplied by the time in seconds, divided by the weight of the car with driver. When this result is obtained, the contestant having the lowest percentage is the winner. The vagaries of this formula are amusing, as results of the Algonquin climb showed that in some cases the lightest car in a class had the advantage, while in others, the heaviest in the group did better than the light-weights.

Zust Drivers Catch a Trolley Tartar.

The Zust competitor in the New York-Paris race is still doggedly fighting out the battle in a "Paris or bust" spirit and during a stop last week at Kazan, a city located somewhere within the bounds of the Russian Empire, the drivers indulged in a glorious trolley ride for a change. Scarfoglio, the "war correspondent" on the Zust car, wired from Kazan as follows:

"The treacherous sun has forsaken us. For the last four days the sky has been shedding all its tears upon the Zust car and its crew. The Russian roads are bad enough normally, but this persistene rain has made them worse than ever.

"Nevertheless we feel we are nearing Paris, our goal, and so speed on day and night. We arrived here at dawn today, and intend to start again at noon. Barring accidents we shall reach Nijni Novgorod tomorrow night, Moscow the day after, and St. Petersburg soon afterward.

"While the mechanics were rapidly overhauling our motor we gave ourselves up just now to the glorious delights of a ride in an electric tramway car. In our enthusiasm we wished to embrace the conductor, but he was a Tartar.

Evidently the Zust drivers do not relish Tartar sauce between meals.

Doing One Hundred Double Centuries.

Two hundred miles a day for 100 days is the tall order that a Chalmers-Detroit "30" has undertaken to fill, and already it has delivered two weeks of it. Four times a day the machine makes the round trip from Detroit to Pontiac, Mich., and as the cities are 26 miles apart, the two morning and two afternoon journeys total over 204 miles. After 2,800 miles the car gives every evidence of completing its 100 days in a fashion that will prove its capacity for road service.

Race Meet for the Twin Cities.

Enthusiasts among the members of the Minneapolis (Minn.) Automobile Club are hungry for some motor racing and have secured a sanction from the A. A. A. to hold a race meet on Saturday, September 5. Several entries for the card have been assured and the club expects the local gasolene lovers to turn out in quite a mob. The following races have been scheduled: One mile, free-for-all time trials; five miles, gasolene stock chassis, 60 horsepower and under; 5 miles, Twin City championship for fully equipped stock cars; 5 miles, free-for-all, best two out of three heats, not more than two cars to compete in a heat; 25 miles, gasolene stock chassis, 60 horsepower and under; 5 miles, open to gasolene cars selling under $1,250.

Louisville Selects a Race Date.

Advices from Kentucky state that the Louisville Automobile Club has definitely decided to hold its race meet in that city on September 12 and that George Salzman, with a six-cylinder Thomas will be the drawing card of the affair. The club is endeavoring to promote the sport in Louisville and some of the foremost citizens are on its racing committee and are assisting the movement.

"The A B C of Electricity." Price, 50c. The Motor World Publishing Co., 154 Nassau Street, New York City.

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FAVORS ELECTRIC OMNIBUSES

Discussing the Situation in London, Bernard Hopps Concludes Storage Batteries Offer Best Solution.

Motor omnibusses and their operation have proved a fruitful topic of discussion for British engineers during the past year or two, owing to the peculiar combination of circumstances which have governed the performance of these machines on the streets of London. The latest contribution to a long series of technical papers on the subject is by Bernard Hopps and was delivered before the Rugby Engineers' Society. After reviewing the causes which led up to a number of financial disasters in this line following a year or two of apparently successful operation, the author announces that present conditions are such as to offer inducements to promoters to introduce still other companies into the public motor vehicle service.

"There are today over 900 motor 'buses in London, 85 per cent. of which are owned by the three principal companies," he remarks. "Many of the 'bus companies in London are at present handicapped with a fleet of more or less obsolete vehicles, which they cannot sacrifice owing to the enormous capital expenditure they represent, and yet which cannot be run at a profit owing to the heavy maintenance charges. How long this condition of affairs will last it is difficult to say. The present vehicles cannot run for more than a few years before they will be reduced to scrap value, but in the meantime these companies are apparently not in a position to consider the purchase of new vehicles.

"There seems to be, therefore, at the moment, an opening for new 'bus companies in London, who would have for their guidance the valuable experience that the older concerns have bought so dearly. They would not be handicapped with obsolete vehicles, but, on the contrary, would have the advantage of acquiring up-to-date machines, specially constructed to meet the service conditions in London, and designed from the experience that has been gained. By the employment of only one type of vehicle the running cost would be materially reduced and the whole system of maintenance could be greatly simplified.

"The question arises what is the most satisfactory type of vehicle for service conditions as obtain in London? The available systems may be summarized as follows: Steam; petrol engine with mechanical change-gear, with hydraulic transmission, or with electric transmission; and electric drive with accumulators.

"Of the above systems two have been extensively tried in London service, i. e., steam, and the petrol engine with mechanical change-speed gear. . . . For net loads of five tons and upwards, it is generally admitted that steam is the more satisfactory; on the other hand, for loads of two tons and less, the petrol engine has the advantage. For vehicles carrying loads between the limits of two and five tons, in which category may be classed omnibusses, the relative advantages of the two systems is a debatable subject.

"As regards the petrol-hydraulic system, several schemes have been proposed, some of which have been tested, but, as far as the author is aware, this system has not been subjected to a prolonged service trial on a London motor 'bus, and therefore little can be said of its practicability for that class of work.

"With the petrol-electric system it is proposed to deal in greater detail, as here more information is available. During the past few years considerable attention has been paid to this form of transmission, and several systems have been placed on the market. In studying these it must be remembered that the first aim in designing a 'bus for London service should be to reduce everything down to the simplest possible form. The electrical equipment must be self-contained and sturdily built. It must be so simple that it can be taken to pieces and re-erected satisfactorily by an ordinary fitter, who has no electrical training, for it must be borne in mind that the average motor 'bus mechanic is necessarily more skilled in matters pertaining to the petrol engine than to electrical machinery.

"Petrol-electric systems may be roughly grouped under the following headings: (a) Those which start and accelerate electrically, after which the electric drive is cut out and is taken up by a clutch driving direct through from engine. (b) Those which employ accumulators to assist the engine in climbing grades. (c) Those which drive entirely electrically.

"It is claimed for the first method (a) that since the electrical equipment is only used for starting and accelerating, it can be made comparatively smaller, lighter and cheaper. This is an erroneous idea, as it is not practicable to limit the output of the electrical equipment to starting and acceleration duties only, since occasion will arise where hills of considerable length must be negotiated, the gradient of which will be too severe for the direct drive, and which, therefore, must be climbed entirely through the electrical transmission. Since such grades represent the most severe duty for the electrical equipment, it follows that in order to avoid over-heating, it must be made just as large and heavy as would be necessary were it called upon to propel the vehicle during the whole of the working period.

"It may be said that for service in our large cities, as, for example, London, the grades encountered are insignificant and can be surmounted with the direct drive, but for this class of service where traffic is always congested, and where constant stops and starts are necesary, there is no real advantage in employing a direct drive to decrease the duty of the electrical equipment, since it cannot be used for sufficient length of time.

"It is further claimed for this system that the so-called direct drive at full speed is more efficient than a purely electrical transmission. Assuming that this is so, and that a few per cent. saving in efficiency may be obtained owing to the elimination of the electrical losses, which at full speed, however, are at their minimum, this arrangement introduces a clutch, which complicates the mechanism and adds another item of upkeep. It also necessitates the alignment of the motor, generator and engine. It limits the speed of the motor to that of the engine, whereas with a purely electrical drive, the motor can safely be run at double the speed of the engine with a corresponding saving in weight and cost.

"With regard to the second system (b) in which accumulators are used to assist the engine, it is somewhat difficult to see what advantage is obtained by their introduction; they add a complication, and require a special organization to attend to them. The accumulator usually employed is the Planté type, which it is true will withstand a considerable amount of abuse both as regards heavy discharges and vibration, but the battery required is as heavy, and as costly as an electric motor would be, and far more expensive in upkeep. The simplicity of the control is sacrificed, and a skilful driver is essential to operate such a system efficiently. For heavy country service in which steep hills have to be negotiated, the discharge rate on the accumulators is high, and there is the possibility that they may become totally discharged before the top of the hill is reached. The only advantage that can be claimed for such a system is that of recuperation during the braking and coasting periods.

"There remains the third system (c), the pioneers of which in this country were the British Thomson-Houston Co. This consists of a direct-current dynamo driven by a petrol engine, the whole of the engine power being converted into electrical energy, which is transmitted through a controller to the motor or motors driving the road wheels.

"In this system, either one or two series-wound motors may be used, depending on the nature of the service. For vehicles in London, the single motor with a single commutator is to be preferred, on account of reduced weight, cost, and simplification of the controller, although it necessitates the retention of the differential gear; for hilly country work, the double motor equipment, or its equivalent, is essential.

"The chief feature of this system is the constant watt output auto-regulating dynamo, which reduces the control to its simplest form, and thus renders the employment of skilled drivers unnecessary.

"In order to fully appreciate the advan-

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tages of this machine it is necessary to study the characteristic of the petrol engine that drives it. The maximum horsepower that can be developed by a petrol engine is limited to practically its normal working output. The torque developed remains approximately constant; it follows, therefore, that as the speed diminishes, due to overload, the horsepower developed diminishes, and this at the time when the maximum brake horsepower output is most required. In this respect it is unlike a steam engine, which can be made to develop considerably more than its normal torque for short periods by increasing the cutoff and the steam pressure.

"In the case of a gear-driven 'bus of the usual type, in order to provide sufficient torque at starting, it is necessary to introduce a comparatively large gear-ratio between the engine and the road wheels. It is small wonder the drivers become fatigued and careless at the end of a day's work, during which the gears are changed on an average of some 800 times in London service.

"The use of the auto-regulating dynamo eliminates the whole of this work and consequent fatigue, and its action may be described as follows:

"At starting, the motors demand a large current in order to develop the necessary starting torque; the dynamo supplies this current, but at a very low voltage. As the motors speed up they automatically demand less current, which is supplied by the generator, but at an increased voltage. In other words, the voltage of the generator varies in inverse ratio to the ampere output, therefore the power required to drive it can never exceed a certain predetermined maximum, which is arranged to correspond to the maximum power of the engine. Whatever the current demand may be from the generator, it cannot cause an overload on the engine sufficient to reduce its speed and horsepower output.

"Almost as important a feature in this system as the generator is the system of control, which has been reduced to the simplest possible form. In order to stop the vehicle the current is not interrupted at the main controller, but the voltage of the generator is reduced to zero by inserting a high resistance in the generator field, and at the same time reducing the engine speed. This is accomplished in practice by a single pedal. On releasing the pedal the first movement cuts out the resistance, and the generator volts build up on the load, causing sufficient current to flow to the motors to start the vehicle, which will continue to run slowly, the engine remaining governed at 400 revolutions per minute. On entirely releasing the pedal the governor is 'held up,' allowing the engine speed to at once increase to its normal value and the vehicle to smoothly and rapidly accelerate to its full speed. To slow in traffic it is merely necessary to more or less depress the pedal, thereby reducing the engine speed, and consequently the generator voltage and the vehicle speed.

". . . . In view of the favorable costs for running petrol gear driven 'buses that were quoted by leading authorities a few years ago, accumulator traction for this class of work was regarded as commercially impossible. Experience has shown that these costs were placed too low, and that the petrol 'bus costs at least 25 per cent. more to maintain than was at first anticipated. The 'bus companies admit the present vehicles give an enormous amount of trouble to maintain, and that the cost of maintenance is a variable one, depending largely on the driver. Skilled mechanics will not undertake the duties of a 'bus driver, and the men who are employed are usually at a loss to rectify small derangements of the engine, etc., which often occur on the road, and therefore it is necessary to employ a staff of road adjusters, who are stationed along the routes to render skilled assistance in cases of breakdowns.

"In the light of the experience gained with the petrol gear-driven 'bus, the prospects of accumulator traction are much brighter. The accumulators themselves have been improved in detail, and accumulator manufacturers are now prepared to enter into contracts to maintain the accumulators at a flat rate per car mile, which at once relieves the operating companies of all anxiety as to the cost of their upkeep."

Young Thief Emulates the Flea.

Writers of dime novels have justification for the exploits recorded in their "thrillers" in the bold career of Ernest Diebler, a Chicago youth, who after being arrested for stealing a $3,000 touring car from the Haynes Automobile Co.'s Chicago store, escaped from the officers of the law and stole the same machine over again, this time from the police who guarded it and in whose custody it was held. After a long chase he was captured the second time but escaped once more by jumping through the window of the railway car in which he was being taken from Seattle back to Chicago The girl for whom he is said to have stolen the machine lives in Portland, Ore., and a close watch was kept for him in that city. The youth finally turned up and was again arrested, but he told such a plausible story about being E. W. Smith and not the man sought that he was released. Telegraphic urgings from Chicago to hold him for identification were received shortly after, however, and before he could leave the city he was taken to jail once more. How many times he will escape and steal the automobile remains to be seen.

Oil-Soaked Pavement Causes a Fire.

"Burning up the road" has a new significance in Chicago, following the exciting incidents of a pavement fire which this week scorched several automobiles and gave the women passengers the scare of their lives. At Clarke and Monroe streets, where many machines were lined up in front of Rector's restaurant, the gasolene and oil drippings of the season had saturated the wooden paving blocks to a point where they only needed a flame to ignite, and this was supplied by a smoker who after lighting his evening cigar tossed the burning match into the gutter. Instantly there was a flare which illuminated the whole street and the fire swept the road surface in leaps. It licked the varnished tonneaus and frizzled the tires of the cars along the curb, and precipitated a general scramble on the part of the passengers to get out and the chauffeurs to move their charges away from the flames. Patrons of the cafes and restaurants ran out and added to the tumult, while the fire department came at a gallop. Because of the floating oil and gasolene, water was not used and the fire was smothered out with pails of sand and the spreading of tarpaulins. No explosions or serious damage took place, but the conflagration points to a very plain lesson for garage owners in particular.

Possible Markets for American Cars.

According to Consul James Johnston, of Algiers, there are good prospects of a permanent market in Algeria for a light, strong, moderate-priced car. Automobiles are extensively used by wine and oil merchants who have to travel in districts where as yet the railway does not exist.

In order to introduce American motor cars and establish a market therefor the manufacturer must be prepared for a little expense, he says. The only effort that appears to have been made thus far in this direction has been to send catalogues in English, but it is unreasonable to expect to sell motor cars on the strength of catalogue descriptions, and no agent would entertain the idea of representing a line of automobiles unless he had a sample car for demonstration.

The duty on motor cars from the United States is 60 francs per 100 kilograms ($115.80 per ton of 2,240 pounds) on cars weighing 125 kilos and over. The duty on the same cars from other countries is 50 francs per 100 kilos ($96.50 per ton).

American Consul R. M. Bartleman, of Madrid, writes that there are over 700 automobiles in the Spanish capital, and a good market for more, including American machines, if they can compete with those now on sale. No American cars are now on the market.

Motor Cabs and Buses in London.

Consul-General Robert J. Wynne reports that a statement by the home secretary shows that there is now one motor-omnibus for every two horse omnibuses plying in the streets of London. The full statement of the number of licensed vehicles in London is as follows: Taxicabs 1,508, hansoms 5,329, four-wheeled cabs 3,768, motor omnibuses 1,046, horse-drawn omnibuses 2,281; total, 13,932.

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The Week's Patents.

889,267. Four-Cycle Motor. Alexander G. Spencer, Rahway, N. J. Filed June 28, 1906. Serial No. 323,953.

A four-cycle motor comprising a cylinder having in its side an exhaust port and at its head end an inlet for the combustion motive fluid and an inlet valve therefor, said end of the cylinder being permanently closed except for said inlet, a piston within said cylinder, a piston rod pivotally connected with said rod, said exhaust port and piston being in proper relation to each other to enable said piston to cover said port during nearly the whole of the suction and power strokes of the same and to uncover said port at about the end of the suction and power strokes of said piston, whereby on the suction strokes of the piston the said fluid is thereby drawn into said cylinder and on the conclusion of the power strokes thereof the products of combustion discharged wholly through said exhaust port then uncovered by said piston; substantially as set forth.

889,310. Drive Attachment for Vehicle Wheels. Joseph H. Joaquin, St. Louis, Mo. Filed May 14, 1907. Serial No. 373,688.

1. A device of the class described, comprising a cap, a flange formed integral with said cap, said cap placed over one-half of the hub and retained in position to the spokes of the vehicle by means of said flange, a second flange formed integral with the cap, an externally screw threaded shoulder formed on the cap, and a sprocket wheel removably attached to the cap, substantially as specified.

889,338. Igniter. George J. Schultz, New York, N. Y., assignor to Benjamin Briscoe, Tarrytown, N. Y. Filed Feb. 26, 1907. Serial No. 359,422.

1. In an ignition device, the combination with a shell having a central opening and carrying a plurality of sparking points, a body of insulating material located within the opening of said shell, but being of less area than said opening, sparking points carried by said insulating material for co-operation with the sparking points carried by the shell, said body of insulating material carrying a translucent flange of insulating material, and means for securing said flange to said shell.

889,362. Speed Changing Mechanism. Walter O. Foss, Philadelphia, Pa., assignor of four-fifths to George Link, Frederick C. Brunhouse, Philip G. Lang, and Ralph E. Brunhouse, Philadelphia, Pa. Filed Jan. 21, 1908. Serial No. 411,947.

1. A power shaft, an axle, a plurality of interchangeable power transmission mechanisms slidably mounted upon said axle, each mechanism consisting of a driving disc, bevel gear and clutch, and a clutch on said power shaft adapted to engage either of the clutches of said power transmission mechanisms, substantially as described.

889,402. Carriage and Automobile Body. Maurice J. Rothschild, New York, N. Y., assignor to Rothschild & Company, New York, N. Y., a Corporation of New York. Filed Sept. 16, 1907. Serial No. 393,001.

1. The combination with a frame or support, of a body covering or sheeting therefor, and a bar conforming to the shape of said frame and secured to said covering by permanent flexion of the edge of the latter.

889,432. Spark Plug. George J. Blum, Chicago, Ill., assignor to Armstrong-Blum Manufacturing Company, Chicago Ill., a Corporation of Illinois. Filed Feb. 7, 1906. Serial No. 299,933.

1. In a spark plug, in combination, an electromagnet; a fixed contact; a movable contact; a finger for carrying said movable contact; a sectional shaft between the sections of which said finger is clamped; and an armature clamped to said shaft.

889,450. Timing Device for Jump Spark Ignition Systems. William D. Foreman, Chicago, Ill. Filed July 5, 1907. Serial No. 382,226.

1. In a timing device of the character described, the combination with a rotary member and an adjustable stationary member provided with electrical contact pieces, of a brush carried by said rotary member, and a contact cleaner slidably supported on said rotary member to be movable relative thereto.

889,487. Carburetter for Internal Combustion Engines. Joseph C. Schneble, Dayton, Ohio, assignor of one-half to Theodore C. Schneble, Dayton, Ohio. Filed May 28, 1907. Serial No. 376,100.

1. In a carburetter, the combination with a cylindrical air chamber and a fuel nozzle located axially therein, of an annular air valve provided with a skirt from its central opening surrounding the fuel nozzle when the air valve is closed, a central needle valve controlling the opening in the nozzle, and rotating cams for operating the air valve and the fuel valve, simultaneously, substantially as set forth.

889,437. Power Drum Gearing. Charles F. Callahan, Pasadena, Cal. Filed Jan. 16, 1908. Serial No. 411,171.

1. In combination with the propeller shaft, a drum mounted transversely thereof, a gear at one end of the drum, a sleeve slidable on the propeller shaft, a pair of bevel gears on said sleeve, a yoke pivotally supported on the propeller shaft, a shaft journaled in said yoke, a gear on the latter shaft adapted to be engaged by either of said first named bevel gears, another shaft connected by a universal joint with the latter shaft, a rotating sleeve in which the last named shaft is slidably mounted, and a spur gear on said rotating sleeve meshing with the gear on said drum.

889,489. Shock Absorber for Vehicle Wheels. William E. Snediker, New York, N. Y. Filed March 16, 1907. Serial No. 362,670.

1. A shock absorber for vehicle wheels comprising a resilient cushion interposed between the main axle and its wheel, a stub axle bearing the wheel and a lever movable with reference to the stub axle and main axle and reacting against the resilient cushion.

889,528. Speed Controlling Mechanism for Automobiles. Thomas B. Jeffery, Kenosha, Wis. Filed Jan. 12, 1907. Serial No. 351,934.

1. In a motor driven vehicle, a motor for propelling the vehicle at various speeds, a motor controller, a speed indicator driven in time relation with said motor so as to show the speed at which the vehicle is traveling, operative connections between said controller and said indicator for causing the controller to be actuated upon variations in the speed, said indicator including relatively movable co-operative dial and index members located within reach of an occupant of the vehicle, and said latter members being so arranged that relative movements may be effected between them by such occupant.

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889,158. Carburettor. Horace T. Thomas, Lansing, Mich., assignor to Reo Car Co., Lansing, Mich., a Corporation of Michigan. Filed No. 13, 1905. Serial No. 286,993.

1. The combination with a casing of an air and a constant level float chamber formed therein, a hollow valve projecting within the air chamber and provided in its inner end with an air inlet port in constant open communication therewith and in its outer end with a discharge port communicating with an outlet from the casing under control of the valve, a seat for the valve provided with an opening, a hydrocarbon supply nozzle concentrically arranged in said opening, and means for rotatorially adjusting the valve, said valve adapted to be registered with the opening in the seat of the valve.

889,585. Tire Case. Lewis G. Cook, Detroit, Mich. Filed May 24, 1907. Serial No. 375,494.

1. In combination with the circular concaved body part of a receptacle, a half cir-

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cular concaved cover part hinged to said body part and provided with staples near its ends, a second half circular concaved cover part hinged to said body part and provided with holes adapted to engage over said staples, bolt members carried by said staples and adapted to be retracted within the walls thereof, a spring for projecting said bolt members and thumb latches for retracting said bolt members, substantially as described.

889,678. Shock Absorber for Self Propelled Vehicles. Charles B. Hatfield, Cortland, N. Y., assignor to Hatfield Motor Vehicle Company, Cortland, N. Y., a Corporation of New York. Filed Nov. 23, 1906. Serial No. 344,729.

1. In combination with the body and running gear of a vehicle, a motor on the body, an endless belt for transmitting motion from the motor to one of the traction wheels, a rock-arm pivoted near the axis of the wheel, a roller on the rock arm receiving and guiding the belt, and means for rocking said arm to press the roller against the belt with sufficient force to deflect a portion thereof from a direct line to resist upward thrust or rebound of the body of the vehicle.

890,533. Speed Regulating Device. Alfred P. Schmucker, Denver, Colo. Filed Jan. 8, 1907. Serial No. 351,329.

1. In speed regulating mechanism, the combination of a liquid containing reservoir, a driving shaft, a driven shaft, means located in the reservoir for circulating the liquid therein as the driving shaft is rotated, the said means including two co-operating members, one of which is eccentrically mounted in the other, and slidable means surrounding the outer member and independent of the shafts for controlling the exit port, whereby the passage of liquid therethrough may be cut off to any degree desired, for the purpose of regulating the speed of the driven shaft as compared with that of the driving shaft, substantially as described.

890,565. Change Speed and Reversing Gear. Charles B. King, Detroit, Mich., assignor to Northern Motor Car Company, Detroit, Mich., a Corporation of Michigan. Filed April 3, 1905. Serial No. 253,585.

1. The combination of a change speed mechanism having adjustable connections to secure different speed ratios and an adjustable connection to secure reverse motion, a rod adapted to slide longitudinally to shift the connections to secure different speed ratios and to rotate to actuate the adjustable connection to secure the reverse action, a second rod secured to the first rod so as to be free to change its position laterally, but restrained from rotation relative to the first mentioned rod, means for shifting the second rod laterally and longitudinally, said second rod being provided with a laterally extending arm, and means for restraining the motion of the outer end of said arm laterally to said rod whereby said rods are turned about their axis.

889,679. Self Propelled Vehicle. Charles B. Hatfield, Cortland, N. Y., assignor to Hatfield Motor Vehicle Company, Cortland, N. Y., a Corporation of New York. Filed Jan. 26, 1907. Serial No. 354,308.

In a self-propelled vehicle, a body and a running gear having a traction wheel, a liquid hydro-carbon engine mounted on the body of the vehicle and provided with opposed cylinders arranged transversely of the body, said engine having a crank shaft extending lengthwise of the body, a friction disc secured directly to the crank shaft and provided with a central floating rest concentric with its axis, the friction face of the floating rest being coincident with the remaining portion of the friction face of the driving disc, a shaft mounted transversely on the body parallel with the friction face of the driving disc, a second friction disc rotating with the shaft in permanent contact with the friction face of the driving disc and movable axially, means for moving said second disc axially in a diametric line across the face of the driving disc, and means for transmitting motion from the shaft to the traction wheel.

889,769. Change Speed Gearing. Jules L. Didier, St. Cloud, France. Filed Jan. 28, 1907. Serial No. 354,527.

1. A change speed gearing comprising driving and driven elements, motion transmitting devices operatively connected to the respective elements, and a pair of relatively movable plates arranged to frictionally engage the motion transmitting devices between them and form a direct driving connection between said elements.

889,782. Spring Wheel. Sylvester W. Higgins, Detroit, Mich., assignor of one-half to Frank H. Farnsworth, Detroit, Mich. Filed May 31, 1907. Serial No. 376,491.

1. A vehicle wheel comprising a hub, a rim normally concentric with the hub, having inturned marginal flanges, a plurality of closed spring metal loops interposed between the hub and rim, in close-pressed contact with each other and the hub and rim, and a pair of parallel flanges adjustably secured on the hub on each side of the springs adapted to frictionally engage the edges of the springs for a major portion of their extent.

889,839. Self Propelled Vehicle. John Wilkinson, Syracuse, N. Y., assignor to H. H. Franklin Manufacturing Company, Syracuse, N. Y., a Corporation of New York. Filed March 11, 1904. Serial No. 197,664.

1. In a vehicle, the combination of the running gear, an internal combustion engine provided with a plurality of air cooled cylinders and with pistons movable therein, and a crank shaft common to all of the cylinders, the cylinders being arranged side by side lengthwise of said shaft and in substantially upright planes at the front of the running gear, and each being provided with external radiating projections, and power transmitting means connecting the running gear and the engine for propelling the vehicle substantially as and for the purpose described.

889,886. Starting Mechanism for Gas Engines. William K. Andrew, Milwaukee, Wis., assignor to International Harvester Company, a Corporation of New Jersey. Filed Dec. 11, 1907. Serial No. 405,981.

1. A starting mechanism for gas engines comprising, in combination, a cam shaft, a rotary valve connected with said cam shaft in a manner to be rotated therewith, a valve casing having said valve mounted therein, said casing having inlet and outlet ports communicating with a source of compressed air supply and an engine cylinder, respectively, and inlet and outlet exhaust ports communicating with the engine cylinder and atmosphere, respectively, said rotary valve having a channel that communicates with said air and exhaust ports alternately.

889,889. Power Transmission Device. Joseph E. Barrett, Detroit, Mich., assignor of one-third to Harry J. Ferrell and one-third to John H. Connor, Detroit, Mich. Filed Aug. 28, 1907. Serial No. 390,483.

1. In an automobile, a motor, a drive shaft, a friction disc, a coupling on the drive shaft having a part movable longitudinally on said shaft, a universal joint between the motor and drive shaft, means for sliding the movable part of said coupling a driven shaft, a slidable friction wheel on the driven shaft, and means for shifting said friction wheel with relation to said friction disc.

889,897. Mechanism for Operating Variable Ratio Gearing. Swinfen Bramley-Moore, London, England. Filed Dec. 8, 1906. Serial No. 346,928.

1. Mechanism for operating the velocity ratio gearing of motor road vehicles comprising two bars pivoted so as to swing in the same plane, extensions of said bars sliding in fixed relation to the said bars, a pivoted operating lever engaging the free ends of the said extensions, and a slotted plate adapted to act as a guide for the operating lever as set forth.

889,927. Automobile Tire Casing. Charles L. Higgins, Montreal, Quebec, Canada. Filed April 6, 1906. Serial No. 310,337.

1. In the manufacture of coverings for tire casings and the like, cementing a strip of leather with its side edges skived to a layer of "frictioned stock," cementing a pair of narrow strips of "frictioned stock" along such skived edges, coating the exposed surfaces of "frictioned stock" with uncured rubber, and finally vulcanizing the whole.

889,951. Shock Shifter Hub. John Muir, Beith, Scotland. Filed April 27, 1906. Serial No. 313,965.

1. The improved mechanism for absorbing shocks transmitted from the periphery of a wheel, to its center, consisting of a ball chamber surrounding the central hub and containing a number of balls, rollers or other rotatable elements superimposed in layers upon one another and having a free space within the chamber; said rotatable elements so superimposed as to receive and distribute the shocks by slipping over one another, substantially as described.

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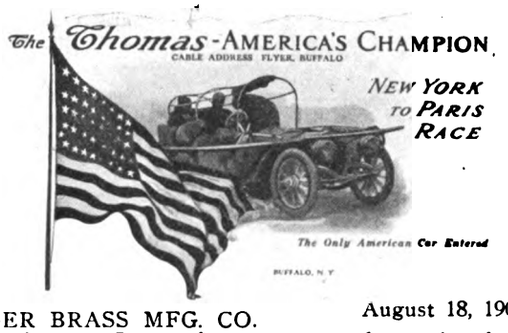
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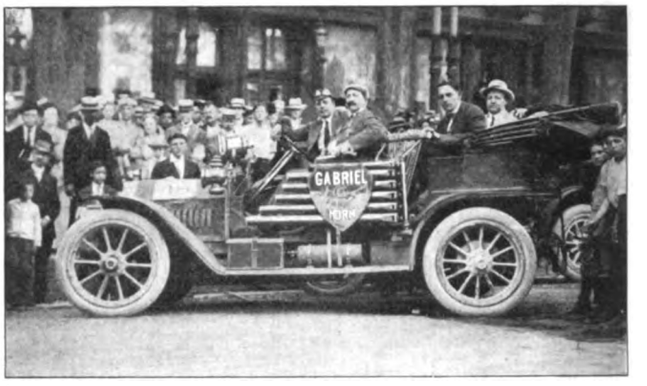


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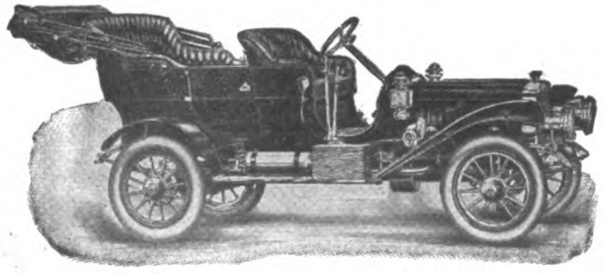
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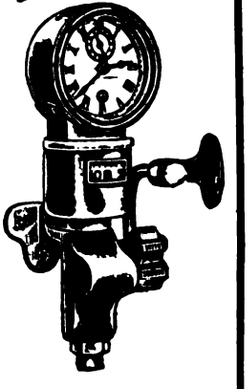
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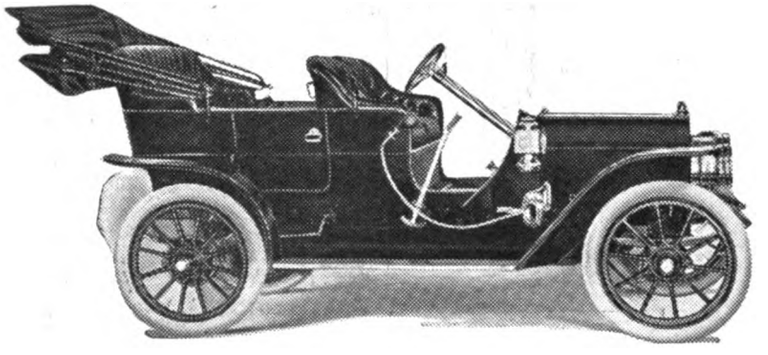
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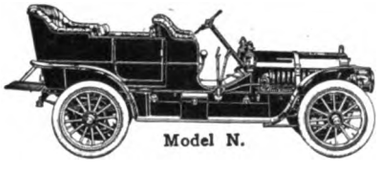
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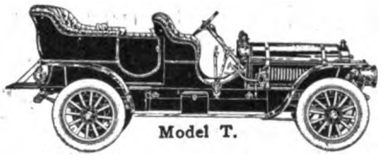
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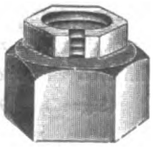
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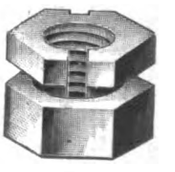
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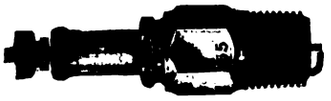
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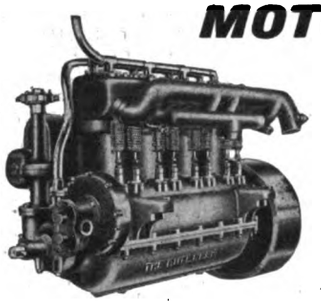
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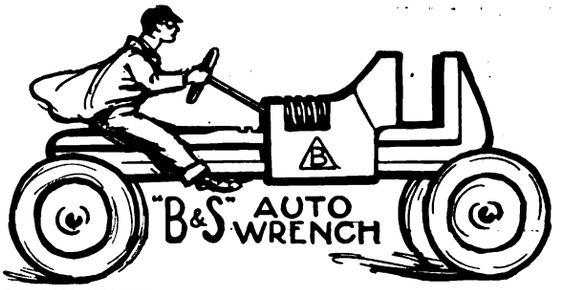
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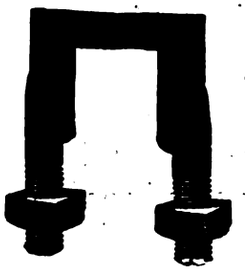


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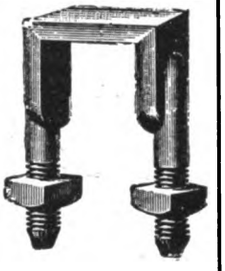
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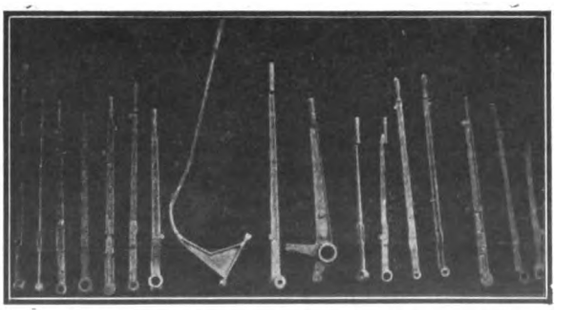
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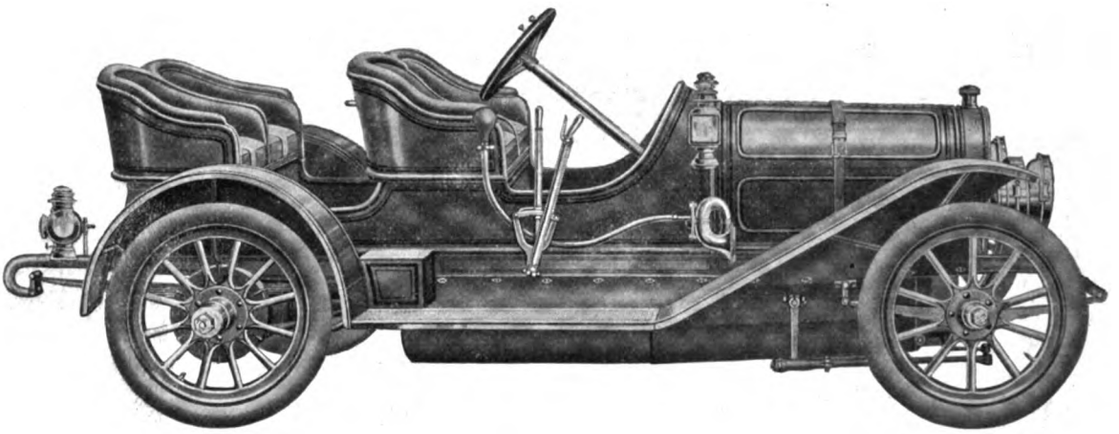
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1909
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Pope-Hartford Model S, Standard Roadster, $2750

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has been successfully made by a stock touring car running over 100 miles a day for 100 days without a broken part. The

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after winning perfect scores in the Glidden and Hower tours and numerous endurance runs, sealed bonnet contests, etc., has by this run of over 12,000 miles over all kinds of roads, shown itself to be

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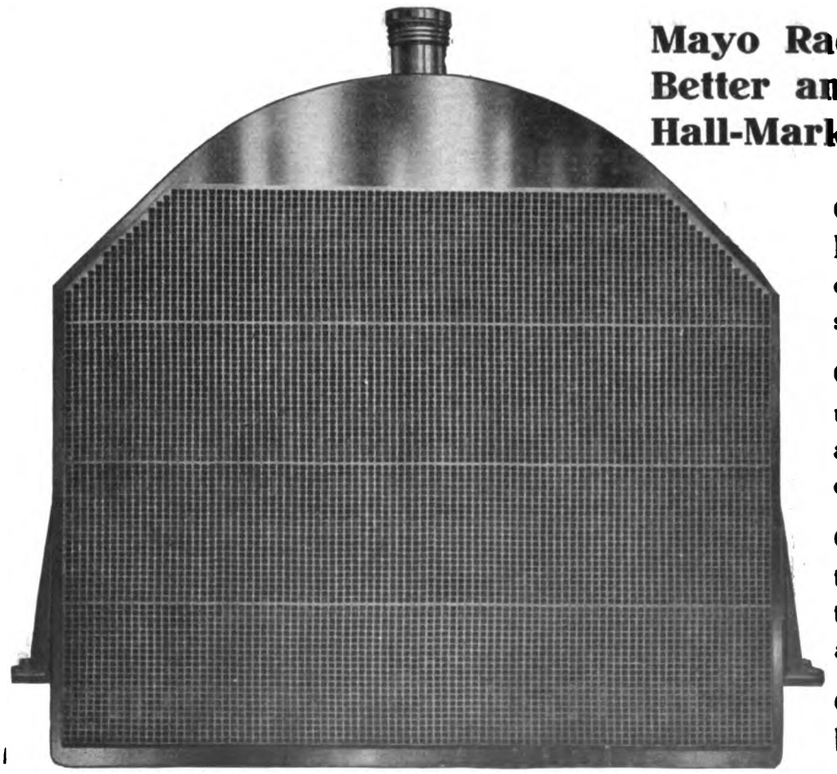
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TIME WAS when tire worry spoiled much of the enjoyment of motoring and the motorist who footed the bills had no voice in the matter.

THEN CAME THE AJAX wrapped tread tire with its superior services.

AND NEXT THE AJAX 5,000 MILE GUARANTEE

—If the user of Ajax tires fails to obtain 5,000 miles service from his tire, it is for us to worry—not him, and we make good.

WITH AJAX TIRES the tire problem resolves itself into a plain proposition. We know that they will do, and we offer you the best kind of an insurance for expressing your willingness to find out for yourself.

IS THERE ANYTHING MORE BUSINESS-LIKE THAN THIS?

Write for copy of Guarantee, stating what size tire you are using.
Address Dept. A.

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—Doing just as well on the road and standing up to wear and tear just as well as the extravagantly high-priced cars.

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Get demonstrations of the high-priced cars.

Then form your opinion in a demonstration of the Mitchell.

The Mitchell agent will be glad to take you out for 50 or 100 miles any day.

Call him up—you are placed under no obligation.

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Just say "Show Me"

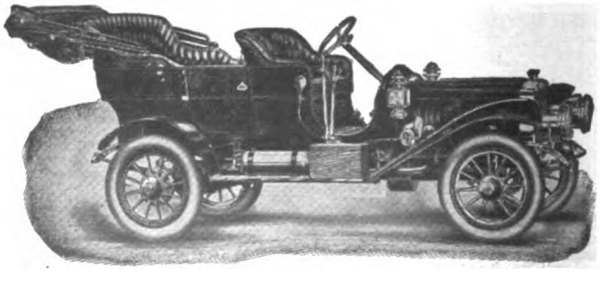
He'll answer with the car—show you a "silent argument" that will convince you.

Write for letters proving that the Mitchell is the most economical car to operate, and for catalog No. 18, picturing and describing the Mitchell Touring Car $2,000, Limousine $2,800, Roadster $1,250, and Runabout $1,000.

Touring Car shown here—5 passenger, 35 h. p., 4 cylinder, speed 50 miles, finished in Mitchell blue—a very neat and extremely desirable car from radiator to tail light.

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FRANKLIN-1909

Bigness and bulk are not style.

You would pick out a Franklin automobile anywhere for its stylish appearance—its symmetrical lines and its perfection of detail, yet no Franklin has any unnecessary bulk or weight.

The Franklin Model H touring-car is a powerful capacious automobile—and looks it. Yet it weighs under 2500 pounds. Other seven-passenger automobiles are far bulkier and heavier, and vastly more expensive to own, but not one is more stylish.

All Franklins have the refined simplicity that is secured only through Franklin air-cooling, and the luxurious riding-quality possible only with the non-jarring Franklin construction. They have long wheel-bases and large wheels and tires. They are easy to manage and strong and safe. And of all automobiles Franklins are the most enjoyable to use.

Franklin closed carriages are especially noticeable for their beauty and style; and the line this year is exceptionally complete.

Model G is built with a brougham body making it very serviceable for doctors or others desiring a two-passenger closed vehicle.

Models G and D are furnished with landaulet bodies.

Model H is built as a limousine. This has the exceptional flexibility produced by the six-cylinder Franklin engine, and is the limit of perfection in closed carriages.

Besides these is the type K2 town-car, seating six. It is built upon our motor-cab chassis and is extra strong and durable.

Models—1909

G 18 H P touring-car, $1850.
G 18 H P runabout with hamper, $1750. With single or double rumble, $1800.
D 28 H P five-passenger touring-car, $2800. Or runabout, with single or double rumble, $2700.
H 42 H P seven-passenger touring-car, $3750. Or runabout, with single or double rumble, $3600.

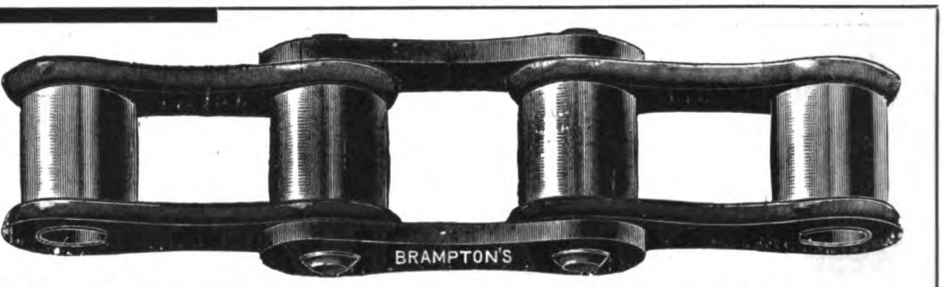
F. O. B. Syracuse.

Write for catalog describing these models in detail.

H. H. FRANKLIN MFG. CO., Syracuse, N. Y.

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THE BRAMPTON MOTOR CHAIN



All side plates on both sides of the Brampton Chain are stamped **"BRAMPTON."**

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement. THE BRAMPTON CHAIN is made of self-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like **THE CELEBRATED BRAMPTON CHAIN** because some of the other chain makers began to copy the design and shape of the **BRAMPTON CHAIN** links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the **BRAMPTON CHAIN** than ever before. These chains somewhat resemble the **BRAMPTON** in appearance, but the manufacturers of such chains have been unable to copy the material —self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the **BRAMPTON MOTOR CHAIN** in the past ten years.—**"ENUF SED."**

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the **BRAMPTON FILLS THE BILL,** and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size. We have in stock chains to fit all American and foreign cars.

YOUR 1909 CAR

You can have the new car that you order fitted with the **CELEBRATED BRAMPTON CHAIN** if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.
Agents wanted in unoccupied territory. Catalog on request.

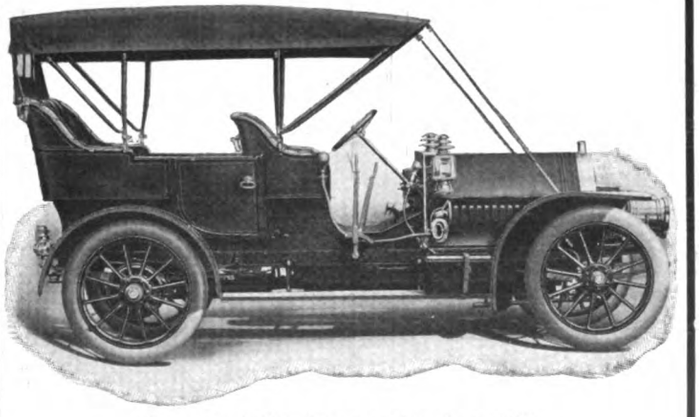
Manufacturer, Jobber, Exporter and Importer

CHAS. E. MILLER, Main Office: 97-99-101 Reade Street, New York

BRANCHES: 54th St. and 8th Ave., New York. 202-204 Columbus Ave., Boston, Mass. 318-320 N. Broad St., Philadelphia, Pa. 227½-229 Jefferson Ave., Detroit. 1829 Euclid Ave., Cleveland, O. 1392 Bedford Ave., Brooklyn, N. Y. 824 Main St., Buffalo.

THE "JEWEL 40"

THE "NON-SKIDDING" CAR



Compare following specifications with other cars at $3,000.

36-inch Wheels. 36x4-inch Diamond, Hartford, Michelin, or Goodyear Tires. 120-inch Wheel Base. 2 Independent Ignition systems—Bosch Magneto, Connecticut Coil and Storage Battery. 40-45 H. P. 4-cylinder engine. Timken axles. Hedgeland Equalizer or Non-Skidding Device. Seven Passenger Body.

Write for catalogue. Good proposition for dealers.

THE FOREST CITY MOTOR CAR COMPANY

234 Walnut Street, - Massillon, Ohio, U. S A.

The Invincible Schacht Auto Runabout

1909 Model Now Ready



MODEL K

16 H. P. Friction Drive. Gearless and Clutchless. Roller Bearings Throughout. High Rubber-Tired Wheels. Long Concord Springs. The simplest, most practical, efficient and economical car ever built. Recognizes no hills or bad roads and will go anywhere that wheels will travel. **Most Popular and "Talked-of" car since the advent of the automobile. Write to-day for catalogue and agency proposition.**

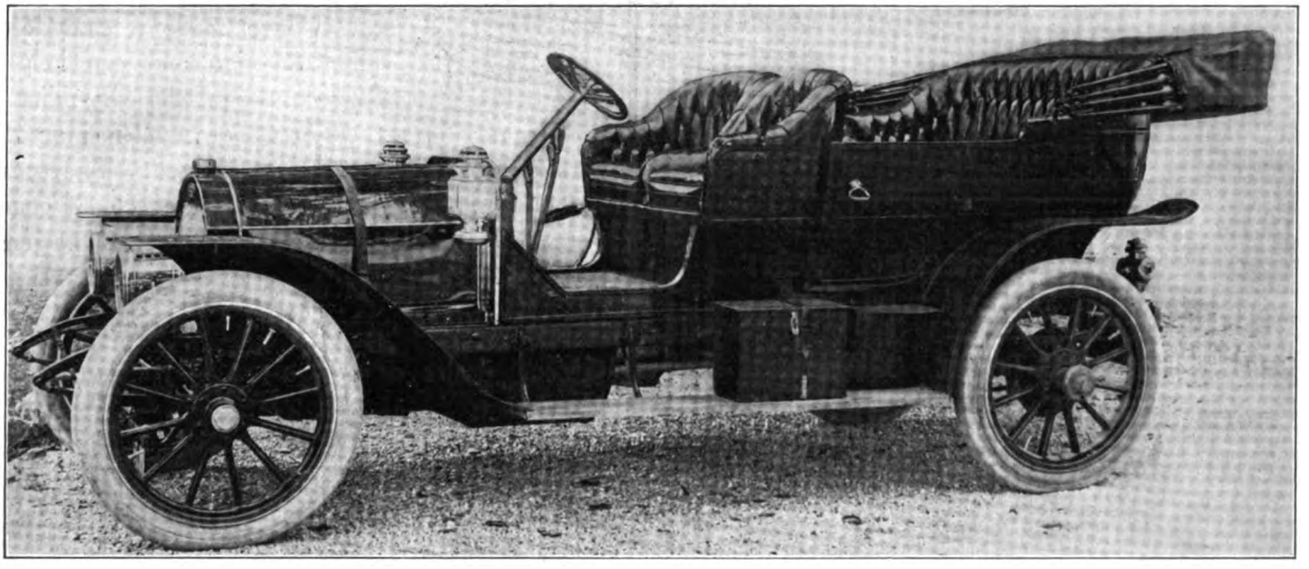
Address M. HARRIS, Sales Manager,

THE SCHACHT MFC. CO., Cincinnati, O.

IOWA DISTRIBUTORS—Campbell & Earl, Fairfield, Ia.
NEBRASKA DISTRIBUTORS—Central Impt. Co., Omaha, Neb.

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APPERSON



The New Model O Apperson, Price $2450

Not an "assembled" car but built throughout in our own factory. Not an "experiment." It has been over a year on the road and has back of it our fifteen years of actual experience in the building of high grade motor cars.

SPECIFICATIONS:

Three, four or five-passenger bodies, optional.
Double ignition by magneto and storage battery.
Five lamps and generator.
Tire carrier, robe rail and tools.
Motor 30 horsepower. Wheel base 119 inches.

Model O Apperson, winner of its event at the recent Algonquin, Illinois, hill climb, showed greater efficiency than any other car of any make that ever competed in any event held under the auspices of the Chicago Motor Club.

We build higher-powered cars with either the four or six cylinder type of motor.

The Apperson line is the most complete of any offered by an established and successful maker of high grade cars.

TO DEALERS Owing to a largely increased output we are prepared to make selling agreements in open territory with a few reliable, live dealers. Write us.

Apperson Bros. Automobile Company

KOKOMO, INDIANA

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THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

$ 2 0 0 0

Touring Car **Roadster**
Limousine **Landaulet**

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.
ROCHESTER, N. Y.
Member A. L. A. M.

SUPPLEMENTARY SPIRAL SPRINGS

¶ Cars are like men in that it takes a study of them to realize their possibilities.

¶ We have made a study of the spring question and can help you realize to the full the easy-riding possibilities of your car. The use of Supplementary Spiral Springs are a duty you owe to yourself. They provide spring insurance and spring comfort, effectually guarding against shocks to your pocketbook and passengers.

¶ Many thousands of the S. S. S. are in use by just as many satisfied users. Better be one of them NOW.

¶ Your dealer or garage can fit you out in a few hours' time.

SUPPLEMENTARY SPIRAL SPRING Co.
Motor Mart, New York 4555 Delmar Ave., St. Louis, Mo.

SRB SRB SRB

The Supremacy OF Standard Bearings

is shown by their work in the THOMAS FLYER, AMERICA'S WINNER of the New York-Paris Race.

Result—More 1909 cars than ever will be equipped with STANDARD BEARINGS.

Send for Catalog.

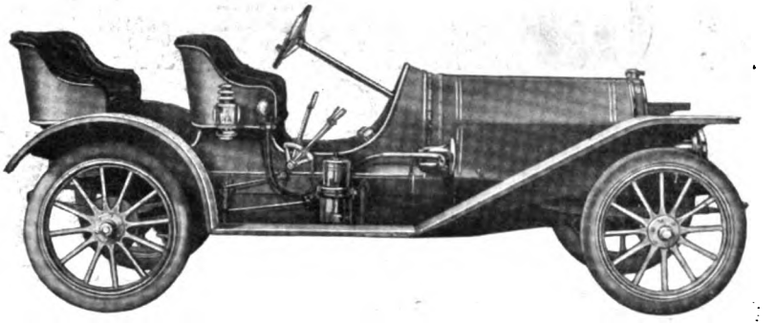
STANDARD ROLLER BEARING COMPANY
PHILADELPHIA, PENNSYLVANIA

SRB SRB SRB

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1909

Overland



Model 34
6 Cylinder
$2,000.00

The Model 34 is

The Most Simple — The Most Attractive
The Most Fully Equipped — The Most Reliable
AND The Cheapest

six-cylinder car ever placed on the American market. A choice of four bodies, roadsters and tourists given. Write for specifications on our other models to

OVERLAND AUTOMOBILE COMPANY, Indianapolis, Ind.

Model B—Brush Runabout

A CAR OF SIMPLE DESIGN MADE WELL
NOT A COMPLICATED DESIGN MADE CHEAPLY

Its records and the opinions of its users speak more loudly than self praise. Agencies for 1909 are being closed rapidly. Much good territory still open.

BRUSH RUNABOUT COMPANY, Detroit, Mich.

THE OLDSMOBILE

is not only the **World's Best Car,** but one of its oldest and most famous. It gives prestige to both owners and agents.

Model M	Model MR	Model Z
Touring Car, Fully Equipped,	"Flying Roadster," Fully Equipped,	6-Cylinder, 130-inch Wheel Base,
$2,750	$2,750	$4,200

OLDS MOTOR WORKS, Lansing, Mich., U. S. A.
Members A. L. A. M.

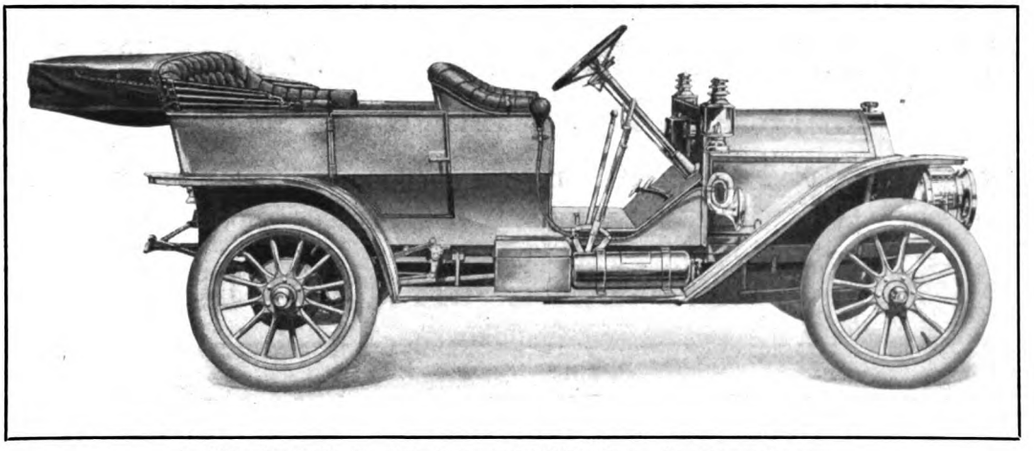
Canadian Trade supplied from Oldsmobile Co. of Canada, Toronto, Ontario.

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Stoddard-Dayton

One Quality for all Models
One Price for all Buyers

Hundreds of motor enthusiasts will give a hearty welcome to this latest addition to the Stoddard-Dayton line.



Model 9-A—Price $2,000, f. o. b. Dayton.

This handsome light Touring Car is a duplicate of our regular Model F touring car which has always won such universal favor. Model 9-A is a counterpart of the larger car in everything except size and price. It will bear closest investigation and will not disappoint the motorist who wants a light Touring Car of Quality at a fair price.

Motor, valve-in-head; 35 H. P. Transmission, selective type. Gears, chrome nickel steel. Ignition, double system, when specified, at extra cost. Wheels, 34x3½ inches. Wheel base, 105 inches. Weight, 2,000 pounds. Equipment: Oil lamps, gas lamps, Prest-O-Lite tank, horn, tool kit, tire repair outfit. Price, $2,000, f. o. b. Dayton.

Model 9-C will be the Roadster companion to Model 9-A. Specifications will be the same, with the exception that wheelbase will be 110½ inches, and body will be along the same lines as our well-known 8-K, with different rear seat combinations, at slightly increased cost.

For 1909, Models F and K will be continued without change, except for refinement of detail.

Watch for announcement in near future of radical changes to be made in Model H for 1909. Write for Catalog.

The Dayton Motor Car Co., Dayton, Ohio, U.S.A.

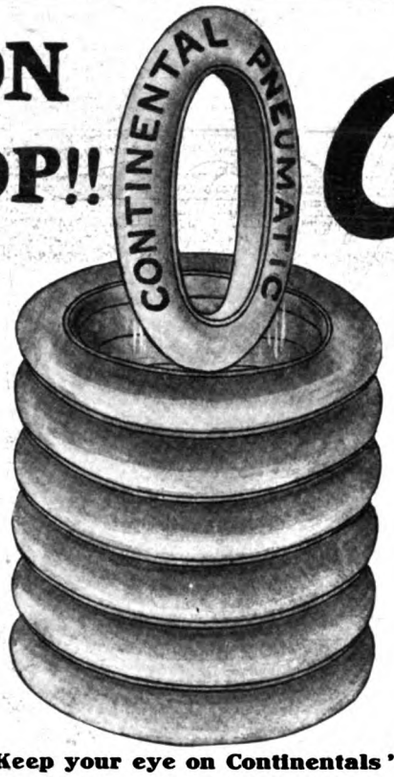
Stoddard-Dayton

Stoddard-Dayton

Stoddard-Dayton

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ON TOP!! Continental TIRES



"Keep your eye on Continentals"

¶Motorists the world over claim "Continentals" to be the best and most durable tires made; manufactured in the **largest** tire factory where the watchword is not "how cheap"—but "how **well** can they be made," they prove their great value over other tires by giving **more miles for less dollars** to every user of them.

Cost—Production—Selling Price

¶**To-day** quantity is the governing power in almost everything. **Two thousand** (2000) **and more Continental Tires** are manufactured every twenty-four hours—consequently our purchasing facilities are unequalled. **We sell Continental Tires** at a profit which has for a basis of calculation our enormous buying and producing ability

Continental Tires at Lower Prices

¶The above achievements mean that our success is **your** saving and **not** that we are **obliged** to reduce the **quality** and price of **our** product to meet **price** competition. **We share with you** our success by offering you a tire from which you can obtain the **most** amount of mileage **for the least** investment of money.

¶**Reduced tire expense means using Continental Tires.**

CONTINENTAL CAOUTCHOUC COMPANY

Home Office: 1788-90 Broadway, New York City. **J. M. Gilbert, General Manager.**

BRANCHES: Detroit, 226 Jefferson Avenue. San Francisco, 422-4 Van Ness Avenue.

DISTRIBUTING AGENTS:

Acme Rubber Co., 925 Jefferson Ave., Toledo, Ohio
Centaur Motor Co., 59 Franklin St., Buffalo, N. Y.
Continental Agency Co., 1268 Euclid Ave., Cleveland, Ohio.
Continental Tire Co., 1200 S. Main St., Los Angeles, Cal.
Excelsior Supply Co., 237 Randolph St., Chicago, Ill.
Jas. L. Gibney & Bro., 211 N. Broad St., Phila., Pa.
Neustadt Automobile & Supply Co., 3948 Olive St., St. Louis, Mo.
Plant Rubber Co., 322 First Ave. North, Minneapolis, Minn.
Revere Rubber Co., 700 Baronne St., New Orleans, La.
Sammis & Downer Co., Huntington, L. I.
The Post & Lester Co., 821 Boylston St., Boston, Mass.
The Post & Lester Co., 175 Asylum St., Hartford, Conn.
Western Continental Caoutchouc Co., 1438 Michigan Ave., Chicago, Ill.

REPRESENTATIVES EVERYWHERE YOU CAN MOTOR

Return this coupon and 1909 prices will be forwarded—also new prices for Continental Ready-Flated Tires.

Name .....

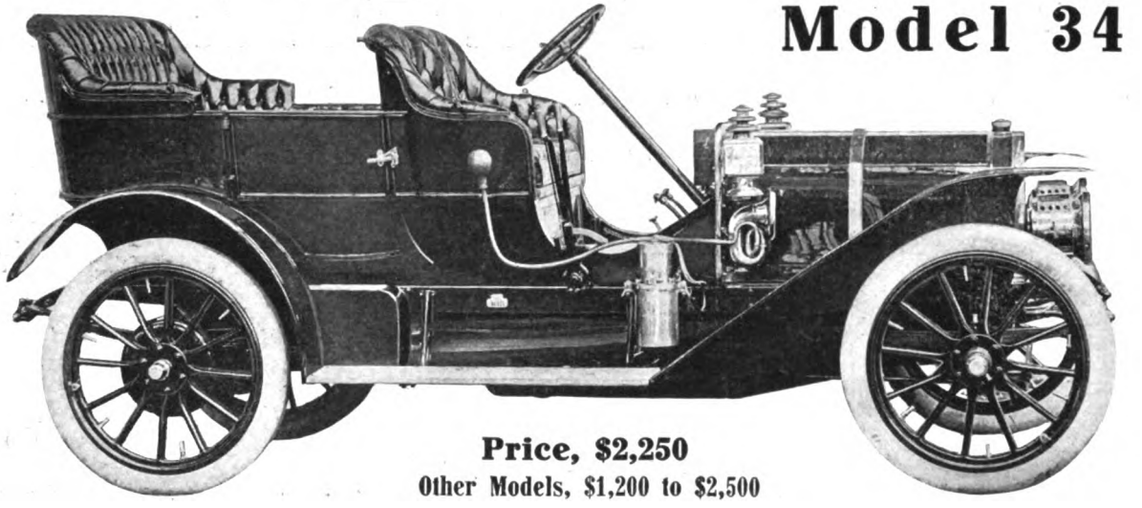
City .....

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Rambler

Model 34



Price, $2,250
Other Models, $1,200 to $2,500

TRY IT ON THE HILLS

Test this car at half speed on a hill or sand road where power and every ounce of it is needed. Notice how steadily and powerfully it pulls when running slowly under load.

The capacity of the offset crank shaft for doing this extra work is most noticeable at low engine speeds. All that power which in other engines is lost through friction on the bearings and cylinder walls, is added to the driving force by the Rambler offset crank shaft. It reduces friction; eliminates hammer on bearings; gives more power.

The straight line drive delivers the power direct and with least frictional loss to the rear axle. Let us demonstrate these features and the silence and the comfort of this car.

Tell our nearest representative to call at your home and take you to your place of business some morning in a Rambler. Or write your name and address and "Model 34" on a postal and mail to us today.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco.

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, September 3, 1908. No. 23

MUST FIGHT CASE ON ITS MERITS

Court Decides Rushmore vs. Badger Suit is Unlike Others—Suspension of Injunction is Continued.

Although Samuel M. Rushmore, of Plainfield, N. J., tried to show through his attorneys that the Badger Brass Mfg. Co. of New York, was in the same class with the Saxon Lamp Co. and the Manhattan Screw & Stamping Works, against whom he had secured injunctions following allegations of "unfair competition," Judge Lacombe, in the United States Circuit Court for the Southern District of New York, handed down a decision last Thursday making it clear that the court considered the circumstances in the case of the Badger company quite different, and that the favorable decision obtained by Rushmore in the other cases cannot be extended to apply to the Badger Bras company.

Through its attorneys, Joline, Larkin & Rathbone, the defendant company agreed to give bond to any reasonable amount, but asked that the injunction with which it was threatened be further suspended until a final hearing on an action directly against it by the plaintiff Rushmore. Judge Lacombe met the defendant's wishes in this respect and fixed the bond for the protection of Rushmore at $5,000, and also made an apportionment of the time in which it will be necessary for the plaintiff to take the necessary testimony to prosecute his case. This action entirely separates the litigation against Saxon and Manhattan from the controversy with Badger Brass.

The time for the taking of testimony is in Lacombe's decision apportioned as follows: Complainant's prima facie, 30 days from the first Monday in September; defendant's reply not exceed 45 days thereafter; complainant's rebuttal not to exceed 15 days thereafter. When rebuttal is completed, motion by either side will be entertained to place on the calendar. As in the other cases, the prosecution will be waged on the ground of alleged "unfair competition" in relation to alleged imitation of the Rushmore "flared front" designs.

Record Year for the Rambler.

Thomas B. Jeffery, head of T. B. Jeffery & Co., Kenosha, Wis., returned from Europe on Friday last. He had been absent some two months.

When Mr. Jeffery reached his factory in Kenosha, Wis., he received the welcome news that all records for midsummer sales of Rambler cars were broken during the month of August. Instead of the falling off which is usual during the month of August in other years, the sales of Ramblers were three times as large as the sales of August, 1907.

Although the year of 1907 was the greatest in the history of the Rambler business, at the end of the fiscal year of 1907 and 1908 the volume of business was shown to be greater than that of the preceding year, which in view of the widespread financial disturbance is the more remarkable.

Southworth and Koehler Shift About.

A. G. Southworth, for several years the New York agent for the Pope cars, has relinquished that account and accepted the management of the Buick branch, which temporarily will be located in the Southworth store on Broadway. The H. J. Koehler Sporting Goods Co., which previously handled the Buick, has taken the agency for the E. M. F. car. The A. G. Southworth Co., under which style Southworth operated, will wind up its affairs.

Kissel Succumbs to His Wounds.

Louis J. Kissel, president of the Kissel Kar Co., Hartford, Wis., who on August 19th, was shot three times by an enraged employe, succumbed to his injuries on Friday last, 28th ult. Mr. Kissel was 70 years of age and long had been prominent in the affairs of his locality, his automobile factory being but one of several large enterprises in which he was concerned.

MORE ROOM AT THE PALACE SHOW

Rearrangement of Floor Plans Will Permit Increased Number of Exhibitors—Date Set for First Allotment.

According to the prospectus issued this week, the first allotment of space in the American Motor Car Manufacturers Association's show in Grand Central Palace, New York, December 31-January 7, will be made October 8th. All applications received up to the first day of that month will be given equal consideration in the drawings, save that members of the association will draw first for the space in the vehicle section, other than that on the main floor which has been set aside for the importers, who will make their own apportionment, as will the members of the Motor and Accessories Manufacturers.

The general disposition of exhibits will be practically the same as at the previous shows, as follows:

Pleasure vehicles: Main floor and part of gallery floor. Commercial vehicles: First gallery floor. Taxicabs: First gallery floor. Motorcycles: First gallery floor. Tires, Parts and Accessories: Main gallery and first and second gallery floors.

The usual display of balloons and other aerial craft will occupy the top floor of the building, but the moving picture attraction will be eliminated and the space be devoted to accessories. A rearrangement of the floor plans also will afford space for additional exhibitors.

Practically the same rules that governed former shows will prevail. The admission fee will be 50 cents, save on Tuesday, January 5, which will be "dollar day." "Special invitation" tickets—heretofore termed "trade tickets"—will be sold to exhibitors in lots of not less than 100 at 20 cents each. Exhibitors will not be permitted to sublet space nor to display goods which they do not actually manufacture or sell. Signs, decorations and tags will be of uniform design.

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The Week's Incorporations.

Camden, N. J.—Auto Truck Mfg. Co., under New Jorsey laws, with $125,000 capital. Corporators, H. M. Browne, E. J. Forham, F. W. Mills.

Westport, Conn.—Pines Inn and Garage Co., The, under Connecticut laws, with $2,000 capital. Corporators—Louis Long, Mary Long, Irene Long, Westport, Conn.

Cincinnati, O.—Buggy Car Co., The, under Ohio laws, with $2,000 capital. Corporators—Joseph Fettig, Sr., Joseph Fettig, Jr., Newton M. Anderson, Charles Runey.

Bowling Green, O.—Gramm-Logan Motor Car Co., The, under Ohio laws, with $100,000 capital. Corporators—B. A. Gramm, W. M. Tuller, J. B. Wilson, R. W. McGahan, Frank Lamb.

Boston, Mass.—Monitor Mfg. Co., under Massachusetts laws, with $50,000 capital; automobile supplies. Corporators—Grant R. Beebe, Hyde Park, Mass.; Fred O. Herne, Fred L. Hewitt, Boston, Mass.

Brooklyn, N. Y.—A. W. Blanchard, Inc., under New York laws, with $25,000 capital; motors. Corporators—Alva W. Blanchard and Lucy Blanchard, 20 Waldorf court; A. Neil Wilcox, 111 Pacific street, Brooklyn, N. Y.

New York City, N. Y.—Walter Christie Automobile Co., under New York laws, with $400,000 capital. Corporators—Van S. Howard, 308 West Forty-eighth street; C. Colgate Moore and G. W. Moore, 602 West Fifty-second street, New York City, N. Y.

Ajax Establishes Two New Branches.

The Ajax-Grieb Rubber Co. this week opened two new branches, one in Philadelphia, the other in Kansas City. The former is located at 316 N. Broad street, and is in charge of Joseph Keir, who formerly was with the Michelin company. Keir is a resident of Philadelphia and is an experienced tire man, having been engaged in the business for the past five or six years. The Kansas City branch is located at 1422 Grand avenue. Its manager is Enoch Graf, for many years past buyer of all rubber goods for the Schmelzer & Sons Arms Co. of Kansas City.

Van's Creditors Allege Queer Methods.

If half of the allegations of his creditors proves to be true, Frank Van Tassel, who was practically all there was of Van's Auto Tire Co., 792 Seventh avenue, New York, certainly made haste to fortify himself against the proverbial rainy day and was not particularly circumspect in his methods of doing so. Three creditors, the Republic Rubber Co., $236; Hartford Rubber Works Co., $652, and Mutual Auto Accessories Co. of America, $208, have filed a petition in bankruptcy against Van's company, and in doing so they allege that the company is insolvent, and had removed and concealed its entire property except some rubber tools and machines of small value; had purchased upon credit goods largely in excess of the amounts usually bought in the regular course of business, and immediately thereafter disposed of the goods, some at less than cost, and the remainder concealed in some place unknown to creditors, and the company kept the proceeds. It was also alleged that within the last month Frank Van Tassel, the president and active manager of the business, has been absent from the store, has refused to see creditors or to answer inquiries relative to payment of their claims. The company was incorporated February 25, 1908, with a capital stock of $10,000. After considering the creditors' petition, the court designated Robert A. Inch as receiver of the concern.

Haynes-Apperson Amalgamation Denied.

Rumors of a proposed consolidation of the Apperson and Haynes automobile companies, of Kokomo, Ind., have been so persistent as to have gained considerable credence in the West. When approached on the subject, however, Elmer Apperson, who would be in a position to know if anyone would, replied to inquiries with the simple statement, "It's all news to me."

Partners Fall Out; Suit Follows.

W. H. Byrne has been appointed receiver for the partnership property of the West Side Auto and Transportation Co., of 2180 Broadway, New York, in a suit brought by Michael O'Connor against his partners. Thomas Doherty, Thomas Flaherty, and Charles Cantillon, for a dissolution of the partnership. They began business in May. The liabilities are $500 and the assets $5,000.

To Produce Palmer's Truck Tire.

The Palmer-Hawkins Rubber Tire Co., Akron, which recently was incorporated under the laws of Ohio, will manufacture the sectional motor truck tire invented by H. A. Palmer. Mr. Palmer himself is president and general manager of the company and A. W. Hawkins, secretary-treasurer.

Thomas Company Engages a Lecturer.

E. S. Thomas, for many years lecturer for the National Cash Register Co., has accepted a similar position with the E. R. Thomas Motor Co., of Buffalo. Mr. Thomas is to make a photographing trip over the route followed by the Thomas car through Europe and Asia in winning the New York-Paris contest, after which he will undertake an extended illustrated lecture tour for the concern.

Horsey to Handle Empire Tires.

E. T. Horsey, who for several years has handled Continental tires in the territory, has obtained the representation for the Empire tires for the greater part of Ohio and has located at 1268 Euclid avenue, Cleveland. He will operate under the title Empire Tire Agency.

In the Retail World.

Chanslor & Lyon, who conduct supply houses in Los Angeles and San Francisco, are preparing to establish a store in Seattle. It will be opened about October 1.

Frederick Livingston, formerly with the Ford Motor Car Co., New York City, has established the Morristown Motor Car Co., at Morristown, N. J. He will handle the Ford and the Jackson cars.

Otto Owen and B. C. Buxton have organized in Chicago the Reo Automobile Co. and have established salesrooms at 1218 Michigan avenue; they will handle Reo cars not only in Chicago, but in northern Illinois.

The John Deere Plow Co., of St. Louis, one of the largest and oldest agricultural implement houses in the West, has "gone into" automobiles. They have taken the representation for the Jackson car on which they have been alloted a generous slice of western and southwestern territory.

C. N. Reed and C. S. Walters, of Tarentum, Pa., have formed the Tarentum Auto Co., to conduct a garage and salesroom. A brick building has been erected at Mill street and West Seventh avenue, and a complete machine shop has been fitted up in the basement. The main floor will be occupied as salesroom and garage.

M. S. Brigham, manager of the Cadillac Motor Car Co.'s retail department in Detroit, is preparing to remove to the other edge of the continent. After a "prospecting tour" to the Pacific coast, he has secured the Cadillac sales agency for the State of Washington, and will establish himself in Seattle, from which point the business will be handled.

The E. C. Long Mfg. Co., of Hannibal, Mo., having consolidated with the Bluff City Plumbing and Heating Co., is said to plan the erection of a three-story concrete building to contain a fully equipped garage. The principal business of the consolidated companies will be handling and selling automobiles and manufacturing electrical and plumbing supplies.

John P. Schneider, one of Detroit's pioneer dealers who now is handling Franklin cars, has leased for a long term of years the property on the southwest corner of Woodworth avenue and Bogg street, Detroit, 131 by 160 feet, on which will be erected several stores and one of the finest modern garages in the city, the garage to be built in the rear of the store property. Plans for the building are now being prepared by architects.

To Make Motor Buggies in Cincinnati.

The Buggy Car Co. has been incorporated under the laws of Ohio, with a capital stock of $20,000, and will locate on Fifteenth street, Cincinnati. The company succeeds to the business of the Postal Auto and Car Co., of Bedford, Ind., which will be transferred from that place to Cincinnati.

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OFFERS M. A. M. 5 PER CENT EXTRA

N. A. A. M. Paves Way for Settlement of Chicago Show Controversy—Rim Question Bobs up Again.

It now seems probable that the Motor and Accessory Manufacturers, Inc., and the National Association of Automobile Manufacturers will be able to reach an agreement in respect to the price of space at the Chicago show; at any rate, the executive committee of the N. A. A. M. at its meeting in New York yesterday paved the way in that direction by resolving to offer the M. A. M. an additional rebate of 5 per cent. on the price of all space occupied by its members, in other words, to make the rebate 20 per cent. instead of 15 per cent., as on the occasion of the previous show. The N. A. A. M. set September 10th as the limit for the acceptance of the proposal. Pending the M. A. M. decision, the show literature which is ready for the printer, is being withheld. As will be recalled, the members of the Motor and Accessory Manufacturers, at their meeting in Atlantic City last month, voted not to exhibit at the Chicago show unless the promoters thereof, the N. A. A. M., accorded more favorable terms.

At yesterday's meeting of the National Association, the rim subject was brought up for discussion, but further action was postponed until the October meeting which will occur on the 7th. On that date the show committee will convene at 9.30 a. m., the executive committee at 11.30 a. m., and at 3 p. m., the first allotment of space at the Chicago show will be made.

Outside of the regular routine, the only other business transacted yesterday was the transferral of the membership of the Wayne Automobile Co. to its successor, the Everitt-Metzger-Flanders Co.

Bright Prospects in Lone Star State.

W. F. Reynolds, who covers the Southern States for the H. H. Franklin Mfg. Co., reports that in Texas, particularly, the outlook for the automobile business is unusually promising. The crops are good, the roads are much better than fancy pictures the climatic conditions are favorable, and the inhabitants are awake to the advantages of motor travel. Reynolds none too shyly hints that owing to the scarcity of water in many parts of the State, the people are predisposed to use the air-cooled cars.

Speaking of the roads, he states that on one of his trips he covered 98 miles, the road being as "level as a floor, with not a rock on it, not a gate to open, not a stream to ford, nor a dog to bark. It is open the throttle wide and whiz 100 miles away in quick time."

"Since the Lone Star automobile route to Seminole was started it has never missed a daily trip," continues Reynolds. "It carries five sacks of mail a day from Midland to Seminole, Andrews, Shafter Lake and Monument, N. M., and now covers a route within nine hours that formerly required two days travel. The old fashioned pony express is very much out of date. Seminole now gets mail in five hours which once took seventeen. On the way to Seminole the road is just sandy enough to keep from getting muddy when it rains. There is not a big hole or creek to cross in the entire distance.

"Midland has three good garages, with another in sight, and plans are now afoot for an automobile line from Seminole to the New Mexico border, and from there to Roswell, N. M., a distance of 268 miles from Midland. Seminole has agreed to its part of the work, and Roswell will look after its side. It is expected that within a few months automobiles can be run easily the entire 268 miles, 160 miles being already in operation."

Pope Creditors Seek Another Dividend.

In the Chancery Court in Newark, N. J., on Tuesday last, 1st inst., Percy S. Bryant, of Hartford, Conn., counsel of the creditors' committee, obtained an order directing the receivers of the Pope Mfg. Co. to show cause on September 8 why they should not be compelled to pay a third dividend of 25 per cent on all approved claims.

In the petition filed by Mr. Bryant he had incorporated a statement of the Pope concerns, dated August 31, showing cash deposits in bank aggregating $1,152,561.99. Of this amount, however, the sum of $345,432.95 represented assets of other insolvent corporations owned by the Pope company, and being thereby not available for the payment of a dividend to its creditors.

September 8 is also the return day for the rule granted by Vice-Chancellor Howell directing parties in interest to show cause why the Pope receivers should not accept the offer of $200,000 made for the Pope-Waverly plant at Indianapolis.

Winton Adopts Automatic Tire Inflator.

Quite the most radical innovation that has been adopted in several years by any of the leading automobile manufacturers was announced this week by the Winton Motor Carriage Co. It is substantially an automatic tire inflator which will render unnecessary the use of the time honored hand pump. It will be applied to all Winton "Sixes," and consists of an extension of the Winton self-starting system, the pressure tank of which will be tapped for tire inflation purposes. Attached to the self-starting cock on the dash is a nipple to which may be screwed a rubber tube leading to the tire to be inflated. By the opening of the cock the pressure of the tank is at once exerted on the tire, which fills with a rapidity and lack of labor more than pleasing to the man who has had experience in pumping an automobile tire by hand.

MITCHELL MEN IN CONVENTION

Meet in Racine as Guests of the Company—Gold Watches as Souvenirs—Big Orders are Booked.

Apart from newspaper men and other guests, 97 Mitchell agents responded to the invitation of the Mitchell Motor Car Co. to talk business and make merry on August 27, 28 and 29, on the company's native heath, Racine, Wis. The occasion proved one that none of those who participated is likely soon to forget. The "making merry" was of the sort that leaves a lasting impression. Nothing was done by halves, as was evidenced by the souvenir of the gathering which took the form of a solid gold watch inscribed with the recipient's name and other wording appropriate to the occasion. Everything else was "on the house." Railroad fares and all other expenses were borne by the Mitchell company. The agents were its guests in fact as well as in name, and they were treated accordingly.

While the festivities played large parts, they did not overshadow the serious side of the conference, for such it was. "Talking business" occupied much of the three days and the inspection of plant and product, the interchange of opinions and the acquaintances formed did much to knit closer the Mitchell fabric.

The newest addition to the Mitchell line, the $1,500 light touring car, caught the fancy of the agents and as indicating the trend of the times, it is significant that of 2,944 cars for which signed orders, with deposits, were placed during the three days, the new model was in uppermost demand. There was nothing indicating depression or doubts of the future apparent at the convention. "Good prospects" was the common report and the men backed their beliefs with their orders.

It was a very busy three days for the visitors, but an even busier one for the Mitchell heads, William Mitchell Lewis, J. W. Gilson, G. Vernor Rogers and John Bate.

Clinton Goes from Trade to Sport.

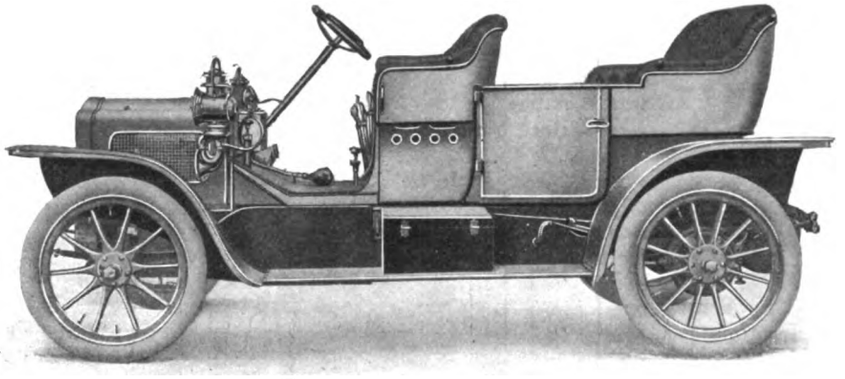
Harry T. Clinton, head of the publicity department of the Association of Licensed Automobile Manufacturers, has resigned that position. He has engaged to become secretary of the contest committee of the Automobile Club of America, having had some previous experiences as a member of the American Automobile Association's racing board.

New Producer of Rubber Accessories.

The Empire Rubber Mfg. Co. has been formed in Akron, Ohio, to manufacture automobile supplies and rubber cement. Its plant is located at 200 East Exchange street, in that city.

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THE 1909 WHITE STEAM CARS



During the coming season, the White Steam Cars will be built in two distinct models which, while differing widely in size, in power and in price, will follow the same general lines of construction. The horse-power ratings of these cars are based on the actual power delivered at the rear wheels, not merely on formulas or on the power delivered at the engine.

The larger of the new cars is known as the Model "M." It is rated at 40 steam horse-power and sells for $4,000., f. o. b. Cleveland, equipped with acetylene headlights and tank, oil lamps, horn and tool kit. The wheel base is 122 inches; the front tires 36 x 4 inches and the rear tires 36 x 5 inches. The car is regulary equipped with a straight-line seven-passenger body.

The smaller of the cars (shown in the above illustration) will be known as the Model "O." It is rated at 20 steam horse-power and sells for $2,000, f. o. b. Cleveland, equipped with oil lamps, horn and tool kit. The wheel-base is 104 inches and the tires, both front and rear, are 32 x 3½ inches. The car is regularly equipped with a straight-line five-passenger body.

The power plants of the two models are identical in design, the only difference between them being in the dimensions of the various parts. The principal mechanical change in the new cars, as compared with previous White models, is in the engine. The new engine is fitted with the Joy valve mechanism, instead of the Stephenson valve mechanism. The valves are driven from the connecting rods, as are the pumps. The eccentrics are done away with and the cylinders are brought close together, permitting the use of a short one-piece crank-shaft, with but two main bearings. The number of parts in the engine is reduced by one half and the entire construction greatly simplified.

As in previous models, the generator — the simplest steam-making device ever designed — consists simply of a series of coils of steel tubing joined together. The regulating system, whereby the temperature and pressure of the steam remain constant without in any way engaging or requiring the attention of the operator, is similar to that in the 1908 cars.

A Circular containing full details of the New Models will be sent on request.

THE WHITE COMPANY

CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.
PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.
SAN FRANCISCO, 1460 Market St.
ATLANTA, 120-122 Marietta St.

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The Fraud in Lubricants.

Despite the long and unremitting effort made to drill into the brains of all who have to do with motor cars, that nothing connected with their use is of such vital importance as the item of proper lubrication, it appears as if the full force of the truth never will be instilled into not a few minds and, what is almost incomprehensible, it seems equally plain that cupidity—the desire to add a few miserable dollars to their profits—on the part of many men engaged in the automobile business is playing a part in defeating the good work.

There is no man in the trade who is fit to remain in it who does not know that the term "proper lubrication" means not only proper lubricants regularly applied in proper quantities, yet evidence accumulates that the number of men who deliberately and unscrupulously make use of inferior oils is quite numerous. Only this week a manufacturer of oils offered the statement that the practice of substituting a cheap grade of paraffin or of neutral oil for oils of known brands and quality is "widely practiced."

"It is practiced, too, by a class of dealers and garages that ought to be above such petty trickery," he adds. "I know of large garages that sell from four to six brands of oil and they buy only one, and pay less than 15 cents a gallon for it."

These strong and rather sweeping assertions would be difficult of belief had they not been proven true by the manufacturer of a well known brand of oil who in a recent round-up of Philadelphia garages discovered eight out of thirteen of the places visited engaged in substituting inferior lubricant for his own high grade product, and, of course, exacting the price of the latter. This particular manufacturer promptly applied the most effective corrective measure. He instituted legal proceedings against each and all of those engaged in the fraud, which is the proper definition of the practice. The astounding results of this "raid" suggests that similar proceedings in other cities may prove equally fruitful.

Regretable as the statement may appear, it is debatable whether the majority of the men engaged in a strictly garage business are truly interested in the welfare of the automobile industry, which is to say, in the satisfactory service of the cars which are housed on their premises. Their unscrupulousness in respect to the sale of lubricants is but one of the indications in that direction. But that many men who sell cars as well as store them stoop to the petty fraud is not readily conceivable. They should be so greatly concerned that their cars render satisfactory service that anything that would influence service of the other sort should be jealously guarded against; and as the cheap nondescript lubricant is an influence of the sort, it scarcely seems probable that they would invite trouble and defraud their patrons by resort to fraudulent substitution which substantially is a form of petty larceny. It certainly would be instructive to discover how many of such dealers are not above the practice complained of.

As proper lubrication often means the difference between the efficient and the inefficient service of a car, the difference btween long life and short life and all the trouble and expense that lies between, the subject is one that seems not too small to seriously merit the attention, if not the co-operation, of the automobile manufacturers themselves. The cheap "paraffine" and the cheap "neutral" oils which are dispensed by the unscrupulous men of the business are the factors responsible for carbon deposits and automobile manufacturers well know that these deposits not only represent imperfect combustion, which means inefficient lubrication, but that they are the cause of some of the most vexatious and too often unsuspected ills to which a motor is heir.

The Two Types of Designer.

From the human and psychological side there are two distinct schools of automobile design. This is shown by the two differing methods in which designers approach the problem of laying out a new car. While every designer is more or less individual in his methods and in his own attitude toward his work, he of necessity falls into that class, on the one hand, which believes in creative work as a duty, or into that, on the other, which regards the judicious adaptation of practice proved successful in service as the true function of the present day designing department. In their extremes these two governing ideas spell freaks and stagnation, respectively.

A concrete instance of the "adaptation" method is found in a well known high powered touring car model which has enjoyed deserved popularity for several years. Preparatory to making the first drawings for this model the designer studied every available type of American and foreign car then on the market, not only with a view to acquainting himself with the general status of the art, but for the more specific purpose of taking the actual dimensions of each, from axle and gear sizes to wrist pin diameters and cylinder wall thickness. Reams of paper were filled with the records of these measurements and by weeks of subsequent figuring, the averages of practice in the more successful cars of about the size and type planned for the new product, were approximated. Motor design, valve size calculations and the selection and disposition of metal in the frame and the transmission system were all evolved from the current practice of other designers. That the resulting car was a marked mechanical and commercial success, bearing reproduction through several seasons without change, in this instance seemed to offer a complete justification of the designer's method in addition to being an evidence of his judgment and skill in wise "adaptation."

Radically opposed to this method is the

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bold work of numerous American and foreign designers in disregarding as far as possible the products of other minds and striking for new and original solutions for the problem presented. Eager for data as to strength of materials and for that complete equipment of the most advanced knowledge concerning the physical and mechanical phenomena to be considered in capable car designing, they spurn anything suggesting slavish imitation of detail, and having created for themselves certain ideals or goals they set about attaining the results they seek, by inventive methods. Naturally enough it is from the "creative" designers that the very best and the very worst motor car conceptions have come, depending upon the ability and knowledge back of the more original features.

The masters of "creative" design, however, do not close their eyes to the work of others through a desire to ensure mere "differentness." That is left to the smaller minds or to the gentry who devise novelties simply to catch suckers or angels. The real purpose is a deeper one and is based on the recognized fact that in invention the most direct and happy solution of a problem is likely to be more easily reached if the mind at work on it is not lead along paths pursued by others. It requires a peculiar quality of intellect to be able to feed on all the facts and data gathered by others without absorbing at the same time the opiates of imitation and copying.

The quick and impulsive patronage that has been given to radically new designs having appearance of superior qualities over previous types, by liberal and enthusiastic buyers, has been an unique feature of the automobile business, in marked distinguishment from the general treatment accorded daring improvers in other lines in the past. The encouragement thus given the "creative" school has in no small measure accounted for the rapid progress and development of the art. But as the composite car more nearly approaches perfection the dangers from the commercial standpoint in radically new ideas multiply, since time tried practice can be called upon to support the "conservative" and "adapted" designs which commercially astute makers offer.

COMING EVENTS

September 5, St. Paul, Minn.—Minneapolis Automobile Club's race meet at State Fair, Hamline track.

September 5-9, Los Angeles, Cal.—Automobile Dealers Association's reliability run to San Francisco.

September 7, Wildwood, N. J.—Motor Club of Wildwood's race meet.

September 7, Denver, Col.—Denver Motor Club's 300 miles stock car race.

Sept. 7, Columbus, Ohio.—Columbus Automobile Club's race meet.

September 7, Lowell, Mass.—Lowell Automobile Club's 200 miles road race, on Merrimac Valley boulevard.

September 7, Columbus, Ohio.—Columbus Automobile Club's race meet.

September 7-8, Morris, Ill.—Chicago Motor Club's two days' race meet, Chapin Park.

September 7-12, Hartford, Conn.—Connecticut State Fair Association's outdoor show and grand circuit races at Charter Oak Park.

September 11-12, Brighton Beach, L. I.—Motor Racing Association's 24 hours race, Brighton track.

September 11, Springfield, Mass.—Springfield Automobile Club's hill climb on Wilbraham hill.

September 12, Louisville, Ky.—Louisville Automobile Club's race meet at Churchill Downs.

September 14, Chicago, Ill.—Chicago Motor Club's annual economy run.

September 16-17, Long Island—New York Automobile Trade Association's mechanical efficiency test, New York to Montauk Point and return.

September 23-24, New York City.—Dust trials, smokeless exhaust and brake tests, under auspices of New York Automobile Trade Association, Central Park.

September 20, San Francisco, Cal.—Olympic Athletic Club's race meet at Tanforan Park.

September 20-30—Kansas City Automobile Club's endurance run, Kansas City, Mo., to Oklahoma City, Okla., and return.

September 23-24, Boston, Mass.—Bay State Automobile Association's 24 hours endurance run, Boston to Bretton Woods, N. H.

October 6-9, Chicago, Ill.—Chicago Motor Club's 1,000 miles reliability run.

October 7, Philadelphia, Pa.—Quaker City Motor Club's 200 miles road race, Fairmount Park.

October 10, Long Island—Elimination trials for Vanderbilt cup contest.

October 17, Hartford, Conn.—Automobile Club of Hartford's hill climb, Avon Mountain.

October 24, Long Island.—Vanderbilt cup contest.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles outlaw race for foreign cars.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show in Madison Square Garden.

January 23-30, Philadelphia, Pa.—Philadelphia Automobile Trade Association's annual show.

February 6-13, Chicago, Ill.—National Association of Automobile Manufacturers' show, Coliseum.

Radiators and Overheating.

Childlike pride which many men exhibit in a radiator system that under almost all conditions of service is "as cool as a cucumber," will be given a rude shock by the conclusions of the investigators of radiator problems which are printed in another column and which are to the effect that reduction of half of the present size would serve as well. They make clear that radiators which cool the water in the cylinder jackets much below 160 degrees Fahr., adversely affect the efficiency of the engine. For the most perfect running an explosive motor requires the highest heat it can stand without inducing preignition or endangering cylinder walls or piston parts.

While the fear of the dread "overheating" has in the past lead many owners of a small car to install disproportionately big radiators, few of them have been able to account for the reduction in maximum power which followed the change, though it was in nearall cases due to too great a cooling of the engine. The ideal for a cooling system is one that will heat up to the temperature of maximum engine efficiency as quickly as possible, and will then hold to that mark as long as the motor is running.

If the flow of water through the circulation system is free and thorough, the radiator should heat up rapidly after the engine is started. A radiator that stays cool shows either that it is too big for the engine or that the circulation is clogged.

"It is better to be sure than to be sorry," as some of the men who are mixing with the "outlaw" movement will do well to realize before getting in too deeply. The exception is extremely rare when "outlaws" have not had to bend their necks and partake of a most unsavory dish.

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THE RACE NOT TO THE SWIFT

Minneapolis Hill Climb Ruled by Mathematics—Webster Makes Best Time, but Clark Wins by Formula.

Following the example of Chicago's exponents of higher epithetics as applied to automobile hill climbing and the subsequent relation of values thereto as evolved therapeutically, whatever that may mean, Minneapolis's high priests of calculus filled their reddwarfink-pencils and figuratively dipped into phases of higher mathematics as applicable to loga and other rithms on Saturday last, 29th ult. The Minneapolis calculators finished up the job quicker than did the Windy City figurers a couple of weeks ago, but to do full justice to both sides it must be explained that Chicago had only its own city to draw from plus the village schoolmaster at Algonquin, while at the Minneapolis hill climb all the mathematical professors from the Twin Cities—which includes both Minneapolis and St. Paul—were out to the Cedar avenue hill in force and automobiles.

It is not quite plain just which formula was used in determining the results of the Minneapolis ascending test. Some have it that the square root of the root of all evil, raised to the nth power and divided by the difference of the cylinder capacity of the car and the tanking capacity of the driver, multiplied by the square of the voracity of the latter, was the formula that was employed. On the other hand it is advanced that the formula went something like this: Cylinder capacity of the car multiplied by the time in seconds, divided by the weight of the car and driver. Whichever formula is correct that one was used, and winners were evolved in the ten classes, which wasn't very hard to accomplish in at least three of the classes; they had one entry in each.

Despite the fact the hill was located ten miles south of the court house, a large crowd enthused over the sport, and more than 300 non-competing machines, were lined up alongside the course. The upstretch measured 2,136 feet, and with a sharp curve midway, there were sufficient thrills to satisfy those who congregated at that point. There is a rise of 105 feet in the course. A speedway of gravel, while not in as perfect condition as it might have been, made a splendid track for the drivers to show off the best qualities of their machines. It is estimated that at least 300 cars were parked along the roadway and that 1,500 people saw the climbing contest. So great was the crowd at the midway curve and at the finish that the efforts of two policemen were necessary at the curve to keep the spectators from danger, and the officials at the finish had more than they could do.

As frequently happens in formula hill climbs, the car which made the fastest time did not necessarily win the class in which it made the fastest time. For instance, in class C, Gordon Bird in a Corbin car, climbed the hill in 33⅕ seconds, while H. J. Clark, in a Pope-Hartford car, required 43⅘ seconds to do the trick, yet the latter was evolved the winner. This was the only perverse case which occurred, however.

Class A was for motor buggies of the high wheel type and a Holsman driven by W. C. Rader carried off the honors by climbing the hill in 1 minute 12 seconds, which gave it a percentage of 6.547. Two Buicks, driven respectively by Charles Nyquist and D. W. Onan, finished in those positions both in respect to time and percentage.

Three of the classes resulted in walkovers, but the single entrants made the runs, nevertheless, the winners being A. C. Miller, Stoddard-Dayton, and Yaul Hoffman, who won two classes with his PierceArrow of endurance run fame. There were three other classes in which the formula was not used, the fastest time countinfi, and in these Gordon Bird, Corbin, was returned a winner in Class G, with George H. Seeley, Moon, a winner in Class I. Bird's time was 33⅗ seconds, and Seeley's 47 seconds. The class for steam cars went to George D. Webster, who defeated C. G. Sigwald by 9⅕ seconds in 30⅗ seconds, the fastest time of the afternoon. Bird lived up to the suggestiveness of his name by making the fastest time among the gasolene entrants. The summary:

Driver.	Name of Car.	H.P.	Cyl.	Wt.	Time Sec.	P.C.
	Class A					
W. C. Rader	Holsman	12.4	2	1,105	72	6.547
H. B. Allen	Schacht	14.	2	1,465	80.4	6.599
	Class B					
Charles Nyquist	Buick	22½	4	1,725	44.2	4.30
D. W. Onan	Buick	22.5	4	1,685	46	4.52
Bohn Fawkes	Overland	19.6	4	1,880	50	4.60
Walter G. Benz	Jackson	22.	2	2,255	51.6	4.95
George Dorr	Ford	22.5	4	1,375	47	5.09
W. E. Wheeler	Ford	22.5	4	1,240	49.8	5.18
John B. Lee, Jr	Rambler	20.	2	2,750	78.8	7.44
	Class C					
H. J. Clark	Pope-Hartford	27.2	4	3.310	43.8	3.53
Gordon Bird	Corbin	32.4	4	2,130	33.2	4.21
Ernie Sampson	Rambler	32.4	4	2,670	45.8	4.90
	Class D					
A. C. Miller	Stoddard-Dayton	36.1	4	2,620	35	4.73
	Class E					
Paul Hoffman	Pierce Arrow	60.	6	4,350	37	5.50
	Class F					
Paul Hoffman	Pierce Arrow	60.	6	....	38.6	....
	Class G					
Gordon Bird	Corbin	32.4	4	....	33.4	....
A. C. Miller	Stoddard-Dayton	36.1	4	....	35	....
	Class H					
H. J. Clark	Pope-Hartford	27.4	4	3,310	43	3.47
Louis Bousfield	Overland	19.6	4	1,880	64	5.34
	Class I					
George H. Seeley	Moon	32.4	4	....	47	....
John B. Lee, Jr	Rambler	20.	2	....	81.8	....
	Steamers.					
George B. Webster	Stanley	20.	2	....	30.4	....
C. G. Sigwald	Stanley	20.	2	....	39.6	....

EXTEND VANDERBILT ENTRY LIMIT

Cup Commission Allows Another Month—Entries in Hand and in Prospect—Steel Grandstand Ordered.

Five American and one foreign car constituted the total entry list for the Vanderbilt cup race on the 1st inst., when the list was to have closed. In addition to these, no less than half a dozen American makers have promised to enter, while two or three who have not definitely promised are expected when the time comes. In order to give them more time to reach a decision, the closing date for entries at $1,000 each, has been extended to October 1.

The actual entries to date are a six-cylinder Acme, a Mora, two Knoxes, and a Chadwick "six," while the only foreign entry is Robert Gray's Mercedes. The following cars have been promised, but not yet entered: Thomas, Locomobile, Roebling, Pennsylvania, Frayer-Miller, and Pope-Toledo. George W. Young's 100 horsepower Fiat also is a possible entry.

A. L. Riker has announced that one Locomobile is being prepared by the company with the expectation of putting Joe Tracy at the wheel, as in previous Vanderbilt races, and that a second Locomobile also may be entered. It is also stated that

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syndicates have been formed to enter the 1906 Thomas, Pope-Toledo and Frayer-Miller cup cars. Out in Trenton, men are working on the Roebling machine, while of those cars already entered the Acme is being tested out almost daily at Reading, Pa., and the Knox people are working on their team of cars at Springfield, Mass. The Chadwick and Mora entries are designed for great speed and will shortly be put through some severe road testing.

While unfriendly critics have been circulating stories of the probable abandonment of the contest, the Vanderbilt cup commission has ordered the erection of the steel grandstand, which will seat 10,000 persons. At present there is some doubt about an elimination race being held, but the cup commission insists that enough entries have been unofficially assured to necessitate one.

Extra precautions are to be taken this year as regards patrolling the course. the Nassau county supervisors having specified in their agreement with the Vanderbilt cup commission that more adequate protection for the public shall be provided.. Special officers and flagmen in white uniforms will line the entire length of the course. In addition to these officers the association, according to a statement made recently by A. R. Pardington, will furnish about 1,200 uniformed and armed guardsmen to patrol the roads, and that they will be men of better quality than the squads of "ornaments" who dotted the course in previous years.

Several drivers already have been nominated for the entered cars. Charles Basle and William Bourque, who are to drive the Knox cars at Lowell, Mass., on Labor Day, will handle that company's two entries in the Vanderbilt. It was Basle who scored a world's record kilometer at Ormond Beach in H. L. Bowden's Mercedes three years ago, and he has since made several notable performances abroad. Emile Stricker has been engaged by Robert Graves to pilot his Mercedes. Stricker has been driving Porthos cars in the Grand Prix and other European races the last few years and it is to this driver that Louis Strang, who was his pupil, attributes much of his success as a racing driver. George Salzman will be the probable driver of the Thomas entry which has been assured.

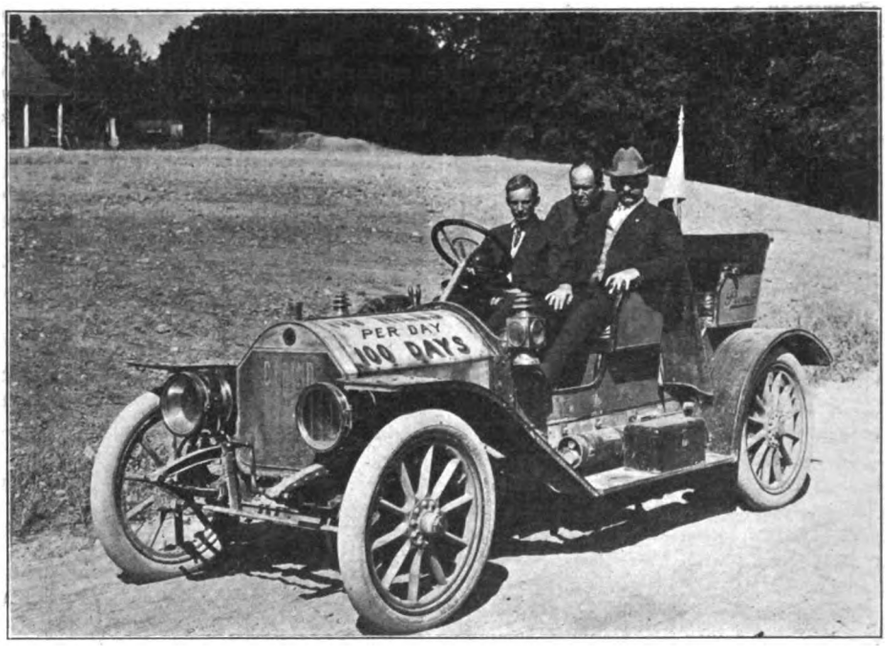
Confusing Two Well Known Names.

The similarity of names has on several occasions caused confusion in the affairs of E. R. Thomas, the Buffalo manufacturer and E. R. Thomas, the New York banker and speed maniac. In connection with the revoking of the latter's license in consequence of his recent smashup, a Trenton (N. J.) daily paper informed the public last week that the victorious New York-Paris Thomas car had just had its license revoked by Commissioner Smith of New Jersey. Trenton, which is noted chiefly for having produced such a celebrity as Miss Rose Stahl, should purvey its news a little more accurately.

CENTURY OF CENTURIES NEAR END

Premier Car Maintains Daily Schedule of One Hundred Miles—Far Ahead in Its Total Mileage.

While the Premier century car, which Joseph Moore is driving, has not yet finished its one hundred days run of one hundred miles per day, it has nevertheless covered more than 10,800 miles, and when the driver pulled into Indianapolis this week, he and the car were given a rousing reception. About 20 local motorists met the car at Greenville, 25 miles out, and the Premier company tendered a chicken dinner to the man at the wheel and made the return joyous. The car's 10,000 mile mark was passed at Pittsburg, Pa., on August 24, but the one hundredth day will not be reached until September 8, making the total mileage by that time over 12,000 miles.



THE PREMIER "CENTURY PER DAY" CAR

The performance is a most interesting one, inasmuch as the motor is in excellent condition and shows no wear or noise, whatsoever. It is claimed that not one part of its equipment has been replaced since the run started. This automobile took part in the Glidden tour as an official press car and covered the entire distance over the half-dozen ranges of mountains running on schedule each day. At the close of the tour, it went direct to Boston and since then has been making its daily centuries in and between the various large cities.

Springfield to Abate Headlight Glare.

Mayor J. W. O'Brien, of Springfield, Mass., called a conference on Friday of last week to discuss the dangers incident to the use of glaring arc headlights on street cars. A body of 15, representing motorists' interests and superintendents of two street railways were present. On behalf of the Springfield automobilists, who have been complaining for some time of the dazzling headlights on trolleys, F. W. Bement read a long list of cities in which a plan for turning off street car lights or subduing them, was in force. The attitude of the railway representatives was that they were willing to try any feasible plan for doing away with the powerful arc lamps which would not endanger the safe operation of cars.

It was finally arranged that street cars shall be equipped with switches on the dashboard for the quick control of the headlight and that motormen shall be instructed to extinguish the light when a trolley meets an automobile or carriage in streets where the glare would confuse or endanger drivers. This idea, it is believed, will do away with one of the most annoying as well as dangerous features of night driving.

Legal Fight for Good Roads.

Aggressive methods for making officials look after the conditions of the roads for which they are responsible are being used by the Automobile Association of Scranton, Pa. Warrants have been sworn out by the organization for the arrest of the officials of Archbold borough on the charge of maintaining a nuisance in failing to keep the roads in repair.

For a Stage Line in Tennessee.

Col. I. Hill Dungan, of Humboldt, Tenn., who is described as a retired capitalist, is reported as forming a company to operate an automobile stage line from Humboldt to Dyersburg via Gibson Wells, a health resort.

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RULES FOR EFFICIENCY CONTEST

Competition Restricted to Stock Cars Fully Equipped—Classification and Sub-Classification of Entrants.

The rules for the mechanical efficiency motor car test under the auspices of the New York Automobile Trade Association, which will take place September 16 and 17, restrict the competition to stock cars which must be fully equipped with bodies and seats, such as are shown in maker's catalog. No car will be considered completely equipped unless it appears as catalogued or in advance sheets, except top and glass front. Chassis must all carry stock touring or runabout body complete, including regular tonneau or rear seats, fenders, steps, running boards, lamps, horns, mats, etc. Extra tires may be carried, but no extra parts of the car or its mechanism, tools excepted, and no repairs or replacements of parts will be allowed except to the ignition system and its parts, though the driver and mechanic may make other mechanical roadside adjustments. Tire repairs and parts may be furnished by and carried on tire makers' supply cars, and tire makers' helpers may fit tires wholly or in part; but tire makers' cars must be regularly entered in the run in order to participate, as no cars of any kind will be permitted to participate unless regularly entered and numbered.

Before starting the entrants will be required to present their cars to the technical committee for examination, to determine whether or not conditions are complied with. The cars will be again examined by the committee at the finish of the run.

Where the car is driven with magneto, for which an extra charge is made, the amount will be added to the price of the car at the time of entry. Any manufacturer or agent entering a stock machine must agree to sell it at the entered price, and imported cars must be entered at their selling price in this country.

A liberal time schedule and time limit will be provided to suit the different classes and powers, but time lost for tire repairs will be allowed. Open controls and checking stations will also be maintained, with motorcycle couriers to observe and report any infractions of the rules.

The classification will be as follows:

Class A—Open to all cars selling for $850 or less.

Class B—Open to all cars selling for $851 to $1,250.

Class C—Open to all cars selling for $1,251 to $2,000.

Class D—Open to all cars selling for $2,001 to $3,000.

Class E—Open to all cars selling for $3,001 to $4,000.

Class F—Open to all cars selling for $4,001 and over.

Class G—Open to taximeter cabs carrying two passengers and driver.

All entries in these classes will be further subdivided by their passenger-carrying and load capacity; for instance, small runabouts carrying 2 passengers; small runabouts carrying 3 passengers; small runabouts carrying 4 passengers; touring cars carrying 5 passengers; touring cars carrying 7 passengers; touring runabouts carrying 2 passengers; touring runabouts carrying 3 passengers; touring runabouts carrying 4 passengers. Framed certificates will be awarded each successful trade entrant and bronze medals for the winning drivers in each class.

The route will embrace the whole of the south side of Long Island from Bay Ridge, its westerly end, to its easterly end at Montauk Point, and the return trip, crossing Long Island at Good Ground to Riverhead, taking in the whole of the North side. The program contemplates a midday clam bake at Capt. Bill Graham's Ye Anchorage Inn at Blue Point, L. I., and an entertainment with campfires, and a mammoth roast ox barbecue and band concert at night at Montauk Inn, besides a second-day noon luncheon stop at Riverhead.

Comet Shines at Santa Rosa Meet.

With clear skies, a smooth track and an enthusiastic crowd numbering 2,000, the race meet at Santa Rosa, Cal., on August 23d, was a big success. The feature event was the 25 miles free-for-all, won by Fred J. Wisedan, driving a Stoddard-Dayton, who finished in 29:44. The Comet, a San Jose made car, scored the fastest mile in 58 seconds. It won the class for cars under $1,500, covering the distance of ten miles in 11:05, although the Buick gave it a hard run for the money. These two cars finished in the same position in the five miles event for cars under $2,500, the former finishing in 5:41⅗ and the Buick in 5:44. The Comet had a big day as it also won the mile novelty in 1:55. A Stearns car secured the ten miles for cars listing over $2,500, with a White a close second, and a Peerless third. The 25 miles for motorcycles went to a Thor machine in 27:18.

Automobile Fire Engines to Compete.

What undoubtedly will be one of the most unique automobile races ever held, is scheduled to take place at Joplin, Mo., on September 8. It is to be an automobile fire engine contest—the first of its kind ever held in America. The fire wagons of the Robinson Fire Apparatus Co., of St. Louis, are to be pitted against cars manufactured by A. C. Webb, of Vincennes, Ind., late of Joplin, Mo. In addition to speed trials, these machines will be put through other competition tests. This will be at a tournament of firemen from five middle western States. Joplin claims to be a leading American city in respect to the use of motor fire engines. That city already has purchased three Webb cars.

NINE ENTRIES FOR LOWELL RACE

Three Foreign Machines Included—Noted Drivers Who Are to Compete—Very Fast Time Expected.

What undoubtedly will be the biggest of the Labor Day motoring events, is the Lowell (Mass.) 250 miles road race over a 10 miles course in the Merrimac valley, for which nine entries have been made. It bids fair to come up to the fullest expectations of the Lowell Automobile Club, as on account of the short course the contest committee limited the number of entries to 12 and there is a possibility of a full dozen cars starting. Of the nine already entered, three are foreign machines and six are American made. Two Isottas and a Fiat will represent Europe, the former being driven by Louis Strang and Al Poole, of Savannah and Briarcliffe fame, while George Robertson will handle the Fiat.

The American entries consist of two Knox cars, two Buicks, a Simplex and an American. One of the Knox cars will be piloted by Charles L. Bissell, a French driver who has driven abroad and at Ormond, while the other will be guided by either Albert Dennison or William Bourque, of Springfield. Robert Burman, who has seen a few 24 hour and track races, and C. S. Smith will drive the Buicks, while Frank Lescault will stick to the wheel of the Simplex and A. J. Andrews the American. Several of these drivers have been out in the chill gray dawn for practice trials the last few days and seem favorably impressed with the course. Louis Strang made the circuit for the first time on Saturday last and stated that he expects to be able to make between 80 and 90 miles an hour on the straight stretches of the course. Other more conservative drivers say that an average speed of 60 miles an hour will be about the maximum rate. The race is to start at 10 a. m., and the contestants will be sent away at one minute intervals, from which it will be seen that the last of the drivers will scarcely be started before the others commence to circuit past the grandstand.

Considerable time and money has been spent to oil the course and put it into shape and bank the turns, including the "hairpin" at Tyngsboro. A wire fence on each side of the road extends the entire length of the circuit to keep the foolish ones from getting under the wheels. The regular Lowell police force will patrol the turns and points liable to be congested and a large number of special police have been hired to take care of the balance of the course. The race is to be run rain or shine.

All roads crossing the course will be closed to public travel at 8 o'clock on the morning of the race, but the main course will be kept open until the time for starting the contests, which will be two hours

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later. There will be telephone service with nine stations disposed along the course, so that in case of accidents it will be possible to signal from all points at once. The grandstands, with a seating capacity of 10,000, are situated three-quarters of a mile beyond where the finishing point of last year's race was, which will allow the spectators to view the race at a point where the contestants are expected to make 90 miles an hour. Back of the stand and close to the Merrimac river, there is a level space which will be reserved for the machines, drivers and mechanicians.

The National Association of American Automobile Engineers will attend the race in a body, and, according to President John O. Heinze of the Lowell Automobile Club, under whose auspices the races are being run, there will be at least 150 present.

New Route to the Water Gap.

Automobilists who have followed the circuitous route to Delaware Water Gap will be pleased to learn that the new Slate Hill-Greenville-Port Jervis State road leading to the Shawangunk mountain was opened to travel this week. It is the most expensive and best constructed road in Orange county with easy grades and smooth macadamized surfaces and passes through one of the most beautiful regions in the East. The road is nearly 13 miles in length and cost $137,000 to build. It is the most direct road into the Delaware Valley and will be the main road to Delaware Water Gap. The acceptance by the State has not been made, but the contractors now allow public travel over it so that by this route automobilists can make the run from Newburg, the eastern end of the county, to Port Jervis, the extreme west, entirely on State roads, except a short distance from Monroe to Chester. The route over the State is completed from Tuxedo to Port Jervis.

Oldfield Gives Kalamazoo a Show.

Before a crowd of 3,000 persons at Kalamazoo, Mich., on Sunday, August 30, Barney Oldfield, up to his old tricks again, "lowered his one mile record for Michigan tracks." He covered that distance in the fast time of 58¼ seconds and considering that the track at Recreation Park was in none too good condition, Oldfield's performance is noteworthy. His previous Michigan record was made at Detroit, when he reeled off a mile in 0:59⅕.

"Rubbernecks" for Sightseers in London.

American sight-seeing or "rubberneck" wagons have invaded London and are highly popular with the out of town visitors and with tourists from the United States. Their bulk makes them the object of spirited verbal attention from the London 'bus drivers, who have further ground for giving play to their caustic tongues because the motor wagons are taking away a considerable proportion of their sight-seeing and fee-giving patronage.

UTILIZING WORKMEN'S BRAINS

How Chalmers Encourages Employes to Give Thought to Their Work—Prizes for Available Suggestions.

Getting the benefit of his employes' brains as well as the work of their hands, always has been one of the business principles of Hugh Chalmers, president of the Chalmers-Detroit Motor Co.

In order to make it easy for his employes to give to the company their ideas about the work that they are doing, Mr. Chalmers has just inaugurated in the Detroit factory a suggestion system.



REGISTERING HIS SUGGESTION

Throughout the factory are placed small registers, such as are used in many stores for making duplicate copies of bills. The employes are invited to write on these registers any suggestions that they may wish to make regarding their own work or the work of any department, where they see a possibility of improvement.

The register makes three copies of each suggestion. One copy is retained by the employe, the second is dropped by him into a small metal box placed at the side of the register, and the third is locked up in the register for a permanent record. The suggestions in the boxes are collected at intervals and taken to the general manager's office, where they are given careful consideration. When investigating the suggestions to find out how valuable they are, the name of the suggestor is never given out, so that there is no possibility of creating a jealousy in the departments, or of allowing a foreman to think that some of his employes are complaining against his methods.

Prizes are offered for the best suggestions submitted. These prizes are awarded quarterly and are as follows:

First prize—$25 for the best suggestion adopted.

Second prize—$15 for the second best adopted.

Third prize—$10 for the third best adopted.

Fourth prize—$5 for the fourth best adopted.

In addition to these prizes, the sum of 50 cents is paid for every suggestion adopted, no matter whether it is good enough to win a prize or not.

This suggestion system has been welcomed by the employes, and the company receives every week a number of suggestions as to improvements in mechanical operations, improvements in methods of doing work in the factory, and improvements in office system.

Practical Test of Splash Guards.

Outside splash guards for protecting passersby from unpleasant spatterings of soft mud or puddle water are engaging so much attention from inventors across the Atlantic that means of testing the different devices offered, to determine their respective efficacy, have had to be devised. The most convincing method hit upon as yet is to have a man don a pure white duster and stand beside the path of a car as it plunges through a pool of mud and roadwater. The first trial is made without the splash guards, and the results of their omission are recorded in a photograph of the bespattered once-white garment worn by the victim at the roadside. The second trial finds the same man encompassed in another white duster like the first, and if the splash guards, which are this time mounted, are as good as they are intended to be, the subsequent photograph of the dust coat will show it spotless and unharmed.

Lost Power Caused by New Valve.

Marked loss of engine power sometimes follows the fitting of a new inlet valve where the latter is of the automatic type. Such a sequence of cause and effect generally indicates that the spring of the new valve is too stiff and should be eased up to correspond with the old adjustment. In the case of the fitting of a new exhaust valve, a diminution in the power probably has its cause in too weak a valve spring, allowing the exhaust valve to open slightly on the suction stroke.

Belgians Organize Automobile Express.

An express company has been organized in Antwerp, Belgium, with a capital of $300,000 to do a general express business in the city. The enterprise will be known under the title La Compagnie Generale Amersoise de Transports. The transportation of articles will be done entirely through the medium of motor vehicles.

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HEAVY VEHICLE TIRE PROBLEMS

Michelin Discusses the Relative Merits of Solid and Pneumatic Construction—Deductions from Experiments.

It is generally admitted that pneumatic tires are unsuitable for use on commercial motor vehicles of the heavier type, because of the enormous strains which must be resisted and the absolute necessity of economy in upkeep. Just what considerations determine the boundary between economical use of the air tire and the enforced application of the solid substitute, however, probably few persons outside the tire industry itself are at all aware. In a paper recently read before the French Society of Civil Engineers the well-known tire manufacturer, M. Michelin, discussed the subject and offered some valuable suggestions on the proper design of tires for heavy commercial vehicles.

The pneumatic tire has hitherto been found useless for heavy weights, for two reasons—explains the Scientific American, in an abstract from this source. The largest pneumatic tire cannot safely carry more than 1,500 pounds and the pneumatic is inferior in economy, owing to a fact which many experiments have permitted M. Michelin to express in the following empirical law:

"The total travel of which a tire is capable is inversely proportional to the cube of the weight which it carries." For example: If the load is doubled the average wear and tear will be multiplied by eight, and an increase in weight of 5 per cent. will cause an increase in wear and tear of 15 per cent.

So, every attempt to increase the load has been followed by such rapid wear of the tires that their employment had to be abandoned.

Hence, it has been found necessary to retain the solid rubber tire in order to lessen noise and soften shock.

At present the situation of the heavy weight vehicle is precisely the position occupied by the touring car before the adoption of pneumatic tires. The vibrations and shocks transmitted to the chassis and to all the mechanism rapidly wear out the motor and gearing. Of 162 vehicles possessed by the Paris Autobus Co., not more than 97 are ever in service at once, although the repair and maintenance shops employ a force of 200 mechanics. Yet the oldest of the vehicles has been in service only eighteen months.

The problem of tires for heavy vehicles is therefore still unsolved. To prove how unsatisfactory is the solid rubber tire, M. Michelin cites the following experiment: A wheel was caused to rotate with the tire velocity of 15½ miles an hour while carrying a load of 1,100 pounds, and furnished alternately with a pneumatic and a solid rubber tire 2½ inches thick, which was in contact with the broad tire of another and larger wheel upon which different small obstacles could be fastened. The displacements of the hub of the small wheel were inscribed in their true dimensions by a style upon a rotating cylinder. Vibrations amounting to ¼ inch for the solid, but only 1-50 inch for the pneumatic were recorded, even when no obstacle was present. These vibrations are caused by a slight eccentricity of the large wheel. They give an idea of the inferiority of a solid tire, which is confirmed by the passage of the wheel over obstacles. The first obstacle was a semi-cylinder about ⅘ inch high. This produced an elevation of the wheel amounting to 0.16 inch with the pneumatic and 0.40 inch with the solid tire. In other words the pneumatic absorbs four-fifths and the solid tire only one-half of the obstacle. The difference increases with the size of the obstacle. On an elongated block ⅘ inch high, the rise was 0.36 inch with the pneumatic and 1.16 inches with the solid tire. A semi-cylinder 1.2 inches in height caused the wheel to rise 0.28 inch with the pneumatic, and 1.04 inches with the solid tire. Finally, with an elongated obstacle 1.2 inches high, the wheel rose 0.44 inch with the pneumatic and 2.36 inches with the solid tire. In every case the ascent of the wheel, carrying a pneumatic tire, is less than the height of the obstacle; while with the solid tire the ascent is always greater than the height of the obstacle, unless this is very small. In endeavoring to repeat the experiment with the solid tires, the steel axles of the two wheels, whose diameters were 1.8 and 2.4 inches, became sprung. In order to avoid breakage the manufacturers of heavy automobiles have been obliged to reinforce their axles. M. Michelin states that he has seen axles made of I bars of forged steel of a height of 9 inches. For heavy-weight articles Michelin recommends the multiple pneumatic. It may consist, according to the weight which it has to carry, of two or more pneumatics, placed side by side upon the same wheel. For heavy vehicles, we are not concerned with high speed, and the construction must be adapted to give great strength and supporting loads. The envelope of the multiple tire, therefore, would not be suited for a touring car. It might be feared that two or more tires exposed together to the inequalities of the road would wear out almost as soon as a single tire, but that is not the case. Twin tires are found at last from three to seven times as long as single tires.

This is chiefly due to the law which we have already quoted, but there are other reasons. The twin tire suffers less from the brakes because their pressure is distributed over double the surface. Seventy-two experiments have proved that, at the same pressure, a pneumatic of small diameter absorbs obstacles better than one of large diameter.

REGISTERING HEAT OF CYLINDER

Prof. Hopkinson Devises Apparatus to Give Direct Temperature Readings—Application of an Electrical Principle.

In the study of what takes place in the cylinder of a gasolene engine numerous satisfactory forms of apparatus have been devised for measuring the pressure at all stages of the cycle operation, but the matter of definitely registering the temperatures attained has presented more difficulty. A recent advance along this line, however, has been developed by Prof. Hopkinson, of Cambridge University, who has devoted a great deal of attention to the theory of explosion motors. His device is of much a character as to give direct temperature readings of the heat inside the cylinder. The principle of the apparatus is founded on the increase of the electrical resistance of copper with the increase of temperature.

For the purpose of his tests, Hopkinson has built a vertical cylinder of cast iron, 12 inches in height and diameter, the interior of which is lined wth wood and the top and bottom covered with cork. In the cylinder is introduced a helical ribbon of sheet copper about ¼ inch wide, with an air space of 1-25 inch between the turns. Coils of the copper ribbon are also placed at the top and bottom of the explosion chamber, forming part of the circuit with the helical coil on the sides. The increased resistance offered the passage of a current through the strips of copper during the period of an explosion provides data sufficient for an accurate calculation of the increase of temperature.

The principal circuit consists of a set of 50 accumulators, a group of lamps and the coil of copper ribbon. Shunting the cylinder coil is a second circuit which includes a galvanometer and a resistance. Again, a third circuit, connected to shunt the resistance, is introduced, it having 6 accumulator cells and a resistance of its own. The lamps and the resistances are so adjusted that a current of 8 amperes flows through the lamps, while no current goes through the galvanometer. The cylinder having been filled with an explosive gaseous mixture and the charge ignited, the heat generated causes a small increase of the electrical resistance in the cylinder coil of copper which produces a proportionate increase of the difference of potential of its poles and sends a current through the galvanometer proportional to these changes. The delicacy of the galvanometer is such as to render mechanical means of registering its action impracticable, so that its deflections are recorded by a beam of light reflected from a mirror on the end of the instrument's needle to a sheet of photographic paper.

In connection with a pressure gauge on

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the top of the cylinder, which shows the pressure at each instant of the explosion, the temperature records give valuable information as to what occurs during the power stroke of a motor. Means for varying the compression under which the explosion takes place are provided in the apparatus, and the experiments which are being conducted will throw a great deal of light on many of the problems in gasolene engine practice.

Novel Mounting of Copper Flanges.

Copper cooling flanges for air cooled motors have long offered a problem to designers and manufacturers in the matter of their application, the desideratum being to have the union of the copper with the iron as close and complete as possible in order that the conductivity of the copper in carrying away the heat from the cylinder may be assisted to the utmost. Elements of novelty are claimed by R. D. McAlvay, of Los Angeles, Cal., for a method of mounting the copper flanges which he has incorporated in a new car of his own design, which was built specially for use in the Western deserts.

The flanges, which are mounted vertically along the sides of the combustion chamber, are cast integrally with the gray iron cylinders, without, however, any melting of the copper. The copper plates or flanges do not penetrate to the interior wall of the cylinder, but have their bases imbedded sufficiently deep in the iron to give them all necessary security. The tops of the cylinders have no flanges, being flat and mounting the inlet and exhaust valves operated by overhead tappets. A further departure from standard practice is the placing of the valves fore and aft instead of at the sides of the cylinders, and the valves are so grouped on the four cylinders that the inlets in each pair are nearest each other, to equalize the manifold flow from the carburetter.

Emergency Remedy for Failing Clutch.

Nothing in connection with driving an automobile is more annoying to the operator than to have a clutch which fails to hold. When this condition exists various disagreeable features ensue; the motor races, the friction created between the clutch and its seat has a deteriorating effect on both parts and the car fails to respond to the action of the motor, which ofttimes places the vehicle and its occupants in a dangerous position. When this condition exists, if the connection is of the friction cone type, a simple temporary remedy lies in the use of Fuller's earth. The face of the leather clutch straps should be cleaned thoroughly with gasolene; then the straps should receive a liberal application of Fuller's earth and if the clutch seat has been carefully wiped until all oil and grease is removed, it will be found that the objectionable slipping has been reduced to the minimum or even entirely removed.

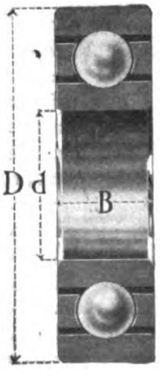
MORE BALLS IN THE BEARING

New Foreign Device Provides More Space in the Separator—Special Advantages That are Claimed.

Refinements in ball bearing construction continue to engage the manufacturers and the improvements along this line, while presenting no introductions of radically new principles, present evidence of the thought and care expended in giving recognized theoretical advantages and considerations a practical commercial and mechanical em-



bodiment. An instance of the sort is a new type of "silent" annular ball bearing, possessing some special advantages over preceding types by the same makers, has been produced by Fichtel & Sachs, of Schweinfurt, Germany, in which the distinctive feat-



ure is a separator so formed as to permit almost the entire space to be filled with balls. Having more than the usual number of balls for a given size, the bearing is claimed to effect a wider distribution of the load among several balls instead of concentrating it on three or two, or even on a single ball, as is said to be the case with some types of bearing.

The separator is die cast, of a special alloy. As shown by the accompanying illustrations, it is split in the central plane of the balls, and the two halves are united by brass wires of dovetail section, which are inserted in dovetail shaped grooves and have their ends clinched over into notches in the sides of the separator. The reduction of the number of balls used, as compared with the "full" type of bearing, is with this separator only one ball.

The method of introducing the balls resembles that used in former types of the F-S bearings, as imported by the J. S. Bretz Co., of New York, being distinguished by the use of angular entering grooves in the sides of the inner and outer races. Contrary to a more or less general impression, these side grooves are not quite so deep as the races themselves, so that after the bearing is half filled the remaining balls are sprung in under some pressure. Once in, they would be prevented from any tendency to escape by the angularity of the grooves.

This construction presents obvious advantages over that in which the races are so shallow that the balls may be sprung in from any point, as the latter are frequently too springy to endure severe end load. The deep ball races and the use of a greater number of balls which the side groove method of introduction and the new type of separator permit, result in a capacity for carrying loads of from 1-10 to ¼ of the radial load capacity. The makers of the bearing lay special stress on the high quality of the materials used and the extreme accuracy of the workmanship and sizing, since to realize the advantages of this type in actual practice perfect uniformity of the size of the balls and exactitude in the formation of the races is manifestly necessary.

Improving Methods of Heating.

In the design of heaters for cold weather use, which give promise of great popularity this fall, as numbers of private owners are preparing to install them, it is to be remembered that if the exhaust from the motor is used it will have a very unpleasant sound if piped directly into coils or chambers placed in the flooring of closed bodies. Town cars and limousines thus equipped have been found to be very disagreeable in this respect, the pulsations of the exhaust having a magnified effect that not only makes conversation difficult but is extremely wearing on the nerves. This objection has been circumvented in some cases by the installation of a separate hot water circulation system, taking its heat from the jacketing of the exhaust on water coil underneath the body. Another method, where consideration for the comfort of the passengers outweighs the slight loss of engine efficiency involved, is to conduct the exhaust through inside coils of generous pipe diameter after it comes from the muffler. In this method, the muffler itself is enclosed in a receiving chamber for the exhaust gas, the chamber serving as an equalizer, after which the hot gas finds its way in a fairly steady flow through the coils of the interior heater and out through a lead of pipe underneath the car to the open air.

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MOUNTING THE CONE CLUTCH

Proper Method for Safeguarding Against the Effects of Disalignment—Details in the Work of Assemblage.

One fruitful cause of dissatisfaction with the otherwise satisfactory cone clutch has been that with certain of the more common methods of mounting, any possible distorsion of the clutch shaft, springing of the cone itself, or disalignment of the clutch and crank shafts, would cause it to engage unevenly, causing jerky starting action, dragging and "spinning" when out of engagement, and generally imperfect action. In the method of mounting the cone, then, rests the chief problem in the design of this type of clutch. As was indicated in the Motor World's announcement of the specifications of the 1909 Pope-Hartford car, last week, the design of the new clutch contains elements of general interest. That these relate more particularly to the method of assemblage and the way in which the device is safeguarded against the effects of disalignment a study of its details will show.

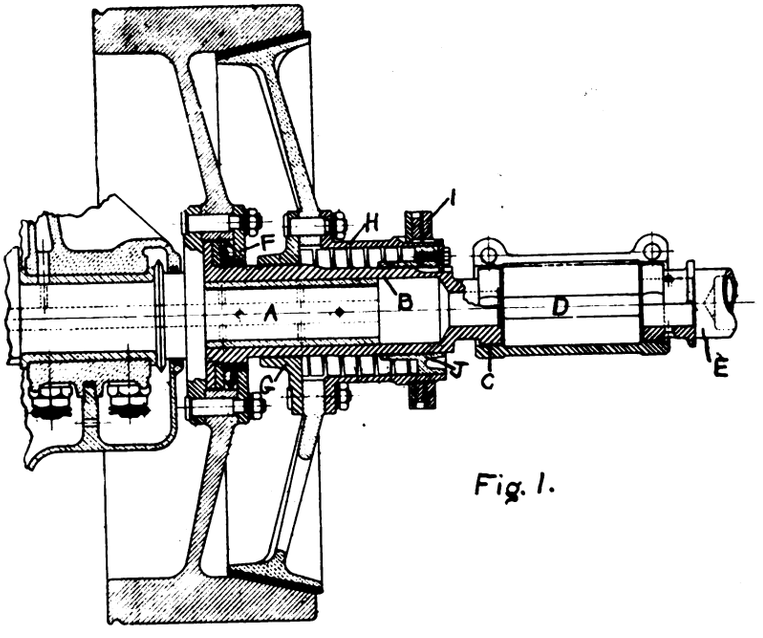


Fig. 1.

As is indicated in the accompanying illustration, Fig. 1, the principle bearing of the clutch on an extension of the crank shaft, A, is very long. The hollow clutch shaft, B, which immediately surrounds it, a bushing being supplied to guard against abrasion, has the advantage of being given only a rotary motion, the longitudinal movement of engagement being entirely independent of this member. At its rear end it is necked down and formed into a square shoulder, C, which engages the squared hollow sleeve, D, into the opposite end of which is fitted a corresponding member in the transmission shaft, E. The sleeve being split along one side and fitted with shims, it is possible to take up any wear which results from the working of the universal joint thus formed, by means of the bolts which clamp it together at either end.

The forward end of the shaft, B, is flanged outwardly and butts against the face of the flange upon which the fly wheel is mounted, a free washer and ball thrust bearing being interposed between its forward face and the collar, F, which is fastened to the fly wheel by through bolts. By this means the clutch shaft is held in positive relation to the crank shaft, its alignment being preserved by its great length of bearing surface and its end thrust being taken up by a plain bearing on the one hand, and a ball bearing on the other. Up to this point the device is lubricated directly from the crank case—an important point to note. A duct leading through the rear journal of the shaft is tapped at one point to register at every turn with the oil feed to the bearing. By this means oil is carried through other ducts to the bearing surface by centrifugal force.

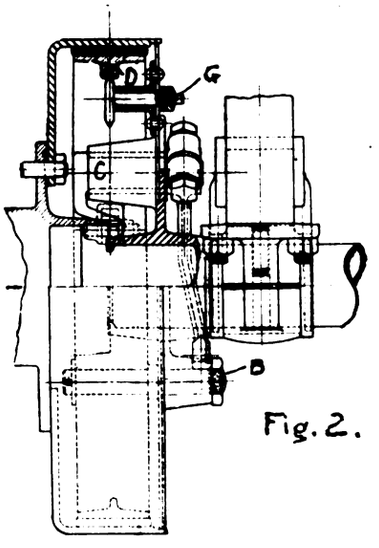
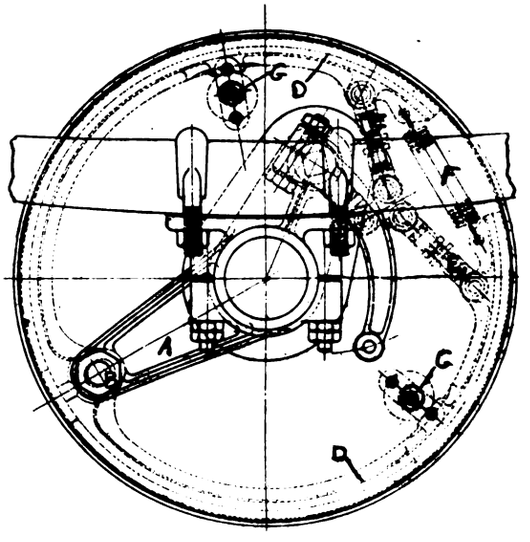


Fig. 2.



The outer side of the sleeve, B, is squared and on it is mounted the boss, G, upon which the cone disc driving member is bolted. Upon the back side of the driving cone is bolted the sleeve, H, the rear end of which carries the adjustable collar, I, which is employed in disengaging the device. Within the sleeve, and threaded on the clutch shaft is the nut, J, suitably locked in position. Between this nut and the rear face of the boss, G, is the engaging spring, which takes its thrust from the clutch shaft itself, the stress being taken up by the ball bearing already noted. It will be observed that the cone group always rotates with the clutch shaft, and is given only longitudinal motion with relation to it The double movement which is necessary in any clutch —that is to say, the rotary movement with relation to the crank shaft which occurs during release, and the longitudinal movement which occurs at the moment of release or engagement—are thus segregated and is carried on independent bearing surfaces.

In addition to these precautions against disalignment another and still more radical feature of the same sort is found in the method of actuation. Instead of a plain yoke to engage the collar, I, two independent arms are used. The pedal connection to these arms is by means of a linkage terminating in a short balance beam each end of which is connected to one of the arms, while the pull of the pedal is applied at the center. By this means the drag on the flange is absolutely equalized, and even should the pedal rocker shaft be out of alignment with the motor, the clutch would still be drawn out in a straight line, and would not tend to "cock up" and drag on one side.

Another new feature of the same machine, which also is noteworthy, is the method of

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adjusting the emergency brakes, which is unusually generous in its application. As shown in Fig. 2, the mechanism, which is of the expanding type, is actuated by a toggle arrangement instead of the more conventional cam movement. The spider, A, which is rigidly attached to the axle tube carries upon one of its arms the anchor bolt, B, and upon the other the actuating rocker shaft, C, which projects through the cover plate. The spring seat being loosely mounted on the tube, it follows that the torque of the brakes is taken up entirely by the same member, which receives the torsional driving stresses and which was described in detail in the previous article already mentioned.

The brake shoes, D-D, are expanded by means of the toggles, E-E, worked by a triangular link connected with the internal rocker arm of the shaft, C. In contrast to the ordinary system of cam expansion, this arrangement provides adjustment in each of the toggle members, and makes it possible to adjust for unequal wear on the two shoes, should this occur, also providing for a nicety of adjustment which is not found where the entire regulation must be done in the drag rods outside the brake. The shoes are normally held in the off position by means of the spring, F, which draws them against the two stops, G-G.

Another adjustable feature is here introduced in the design of the stops, which are in the form of circular discs eccentrically mounted on short studs projecting through the sides of the cover plate and locked in position. A slight rotation of the studs permits the bearance of the shoes to be regulated so that exactly the same amount of movement always will be required to throw them into engagement. The utility of this provision, when coupled with the adjustability of the individual toggles, will be at once apparent.

Still another point which should be mentioned is the method of mounting the drums. Instead of being attached to the hub flanges, as is commonly the case, the brake drum is mounted on the hub itself, the latter extending inwardly as far as the center line of the brake shoes to give good support for the wheel and brake. By this means less strain is brought to bear on the hub bolts than with the more common arrangement, and the wheel is less liable to work loose in consequence.

Loose Check Nuts Invite Trouble.

Loose check nuts on the connecting rods in the braking system may become the cause of a serious mishap if not taken up in season. When the check is removed from the turnbuckle or other adjustment which it is supposed to guard, the tendency of the vibration is to loosen the adjustment of the bands. As this may ocur while the machine is running, the possibility of having the brakes fail owing to slack adjustment and without any previous warning, is well worth considering.

THE SECRET OF GOOD SURFACING

Essential Value of a Liberally Built Foundation—Suggestions for Effective Laying on of Primary Coats.

With the advent of the automobile there has come a demand for the best sort of surfacing, and, for the most part, nothing short of this will apparently suffice.

The ordinary processes which have obtained outside the strictly high grade city custom shops are inadequate to meet the demand for the more excellent surfacing necessary to produce in the wide-reaching automobile a work of art. And this surface, it has been further demonstrated, cannot be built up on an impoverished foundation of primary coats, whipped together by the doctors of the old school of surface magic, says the Carriage Monthly. The foundation must be liberal, and composed of the best sinew and substance put together by the manufacturer. And coming to the part, foremost among all, which the painter plays in this surface making practice, we find that a good quota of coats must be used. Above the primer, confining our attention now to body surfaces, should come at least a couple of strong, supple coats of lead, perfectly laid, to be followed by at least five coats of roughstuff. Upon metal surfaces which have many uneven places in them, it will even be found necessary to apply a greater number of coats in order that in rubbing the roughstuff a perfectly level surface may be secured without cutting the higher parts dangerously close in order to reach the naturally lower ones.

However, we incline to the belief that upon all metal surfaces, which through processes of construction, show dents and depressions, markedly along the line where the panels are attached to the frame work with pins, draw puttying should be resorted to over all existing shallow places. The work of reaching the proper surface both in point of quality and of levelness is thereby rendered very much easier.

The sum of the whole matter of surfacing with roughstuff consists in getting together such a substantial body of pigment that the surfacing down to an absolutely level and smooth plane may be done without cutting any part of the foundation dangerously close to the basic structure beneath.

And where this is accomplished we deny the need of any 'stopper" or other coat being interposed between the body of roughstuff and the color coats. Technically, the "stopper coat" was designed to impart to the rubbed surface of roughstuff an impalpably fine, intact, close-grained film, through the medium of which the coats to come after were to be absorbed in no essential degree, thus sustaining them in the full strength of their power entirely above the primary foundation.

Nevertheless, latter day foundation building, as expounded and demonstrated by the leading members of the craft, has proven the undisputed lack of necessity of any "stopper" coat above the roughstuff. Certainly it is true, and is capable of proof along any of the avenues of American cities of the first class, that present day automobile and carriage finishing is the equal of, if not superior to, the finishing of previous times.

The massive contour and sweep of automobile surfaces naturally exact a fairly minute attention to every least detail of surfacing. Not long since the writer, in touring a certain large auto paint shop, had his attention called to a workman engaged in putting roughstuff upon touring car bodies. The coarse pigment on some bodies was being laid off with horizontal brush strokes, on others with vertical strokes, and on still others with angle strokes. He was advised that the direction of these angle brushings was reversed in regular order, and by their employment, along with the horizontal and vertical strokes, the filling pigment was brushed in four different directions, thus giving a foundation of the closest possible texture, more compact, and with a more uniformly distributed flow of pigment. In similar manner the lead coats leading up to the foundation of roughstuff are, in the above shop, laid at right angles one with another, the reverse coat scheme being in this way carried through from primer to the guide coat atop the roughstuff.

Superior skill, and the diligence of Jacob of old, are, in the final review, the chief part and parcel of all the issues reverted to above in the enforced reign of fine automobile surfacing.

Effect of Speed on Fuel Consumption.

Experiments relating to the effect of speed on fuel consumption constitute a favorite pastime of many investigators at present, and although it has long ago been shown that the rate of fuel consumption per mile is materially increased with increases in the speed, the particular effects obtained with different sizes and types of motors affords the opportunity for each experimenter to obtain data which is of value as a contribution to the whole subject. Recent tests of this character have been tried with a six cylinder Italian Napier of 40 horsepower, the car being fitted with a measuring tank having a calibrated float rod so that the contents of the tank could be seen at a glance from the driver's seat. Four tests were made at as nearly constant a speed as possible over a selected stretch of road about 7¼ miles in length. The average speed maintained for each of the four tests was 19.2 miles per hour, 27.8 miles, 37.8 miles and 43.6 miles per hour, respectively, and the corresponding fuel consumption figures worked out at 19.95 miles, 16.26 miles, 14.2 miles and 12.9 miles per gallon, respectively.

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TO SETTLE THE QUESTION FOREVER

Chicago Magazine Editor Will Decide Which is Best Car and Tire—He's a Philanthropist, He is.

No prospective buyer of an automobile need worry after October, as regards what make of automobile is the best, for that momentous question is to be decided definitely beyond all shade of doubt by a little heard of Chicago monthly magazine, which gives "advice to investors," and prints other such stuff. Not only will this magazine decide which is the best make of motor car, but also the best make of tires and speedometers. These three articles are definitely specified. The spark plugs, gasolene and lubricating oils probably will be settled later.

The editor of this Chicago publication apparently is bulging with benevolence. His scheme of determining the most meritorious product is to be so "legitimate" that he absolutely refuses to accept any advertising contracts from any manufacturer! This is "so that there can be no question of influence in the decision." The publishers, however, very graciously will condescend to furnish the manufacturer whose product makes the best showing, with all the extra copies of the magazine he may require—at a certain cost, of course.

In a letter which the Chicago editor has sent to numerous manufacturers, he says: "There is no question that the final decisions will mean a tremendous advertisement for the best car and accessories and a number of manufacturers have already assured us that they will use extra copies should their product show the best." Then follows a long list of cars and tires "being considered."

Just how the editor-gent expects to reach the important decision, which will settle the perplexing problem for the pee-pul, is interesting. He has spared no expense to send representatives to New York, Philadelphia, Baltimore, Washington, San Francisco, Keokuk, Frozen Dog, Ariz., and elsewhere for the purpose of "gathering data." When the data is all gathered, it will be carefully compiled and the editor then will decide the fateful issue. Buy the October number! The milk in the cocoanut is contained in the "extra copies." The "extra copy" scheme is a well ripened one.

Where Motoring is Discouraged by Law.

In contradistinction to the law of New York State which holds that an owner of an automobile is not responsible for damage done by his car when it is not being operated under his orders, is the law of Austria, which holds that there is no limit to the amount of compensation which may be exacted from a motorist for damage caused by his car. In Germany the damage limit is fixed at $12,500, but in Austria any sum may be collected, and in view of the notorious hostility of certain districts to motorists, a fortune might easily be lost on a single trip.

The secretary of the Vienna Automobile Club says that the position of motorists will be most serious if the law is rigorously enforced. Dr. Emil Frischauer, a Vienna lawyer, who has studied the measure, in commenting on its provisions said, "there is but one avenue of escape open to the motorist, and that is to evade the law by the formation of limited companies.

"Several motorists will join to form a company, each subscribing a certain sum, say, $5,000. A company with five members will thus have $25,000 at its command, and will purchase the cars of the five members, giving $5,000 for each. The company now becomes liable for all damage done by all the cars, and, being a limited liability concern, it is only able to pay fines or compensation to the limit of the funds in hand. Then it becomes bankrupt. Dr. Frischauer considers that such a company would be in a chronic state of bankruptcy, but this would be the only way of evading the law."

The Anti-A. A. A. "Secret" is Out!

At last the "secret" is out! One of the earliest and most confirmed and persistent of the race promoting press agent and "auto editor" critics, who has a few personal grievances of his own, finally has pointed out what he describes as "the sore and weak point" of th A. A. A. It consists of the fact that club representation being the basis of A. A. A. government, a few active members in each club are able to influence the election of the club delegates; It is as clear as mud, therefore, that the A. A. A. should be rent asunder and hanged to a lamppost for permitting such a dreadful state of affairs. But it will be a capital idea if the critics will now point out a club of any sort in which this is not always the case and also indicate how any national organization can alter such a state of affairs in any club while men remain human.

New York "Outlaws" Play the Usual Trick.

As is usual in movement of the sort, in their efforts to bolster up their very lame cause and to attract a gate to their 24 hours race at Brighton Beach next week, New York's little "outlaw" Motor Racing Association, which has become a corporation, has been making free use of a number of respected names. They gave out that Charles Jerome Edwards, president of the Long Island Automobile Club, would act as referee of the outlaw affair and that among the judges would be Charles J. Swain, of the Quaker City Automobile Club. As soon as the news reached those gentlemen they lost no time in repudiating and condemning the unauthorized use of their names, and in expressing their opinion of the attempt to connect them with the "wild cat" money making scheme.

ENDURANCE RUN, FAMILY STYLE

California Manufacturer Proves that It is Possible to Interest the Private Owners—Run Covered 1,100 Miles.

As a demonstration that private owners can be persuaded to take part in long tours or endurance contests when the schedule is arranged with a consideration for human comfort and not merely to break down the scores of manufacturers' teams in competition, the 1,100 miles "Tour of the Tourists," which ended at Los Angeles, Cal., on Saturday, the 22d ult., affords a conspicuous illustration. One of the features of the tour was that it was participated in not only by hardy road drivers of the do-or-die type, but the wives and children of the entrants were conspicuously present.

Mild rivalry, sufficient to add interest to the proceedings, was provided by a system for awarding perfect scores to those cars which arrived at all controls on time, but the itinerary and time allotment for each day was generous and the cars being all of one make, the Tourist, the competition for perfect scores was purely one of careful driving.

The entire trip consumed 10 days, the start being made from Los Angeles with 32 cars in the line. As the caravan made its way up the coast to San Francisco, more machines joined in at different points, so that the arrival at the latter city found the tourists about 50 strong. The charms of San Francisco were such that when the return to Los Angeles was scheduled only 21 of the full distance tourists returned, 12 of them making perfect scores.

Connecticut Warns Rhode Islanders.

Warning Rhode Island motorists not to kill the goose that laid the gilt-edged egg, Secretary G. K. Dustin of the Connecticut Automobile Club, has written a letter to the members of the Rhode Island Automobile Club, regarding motoring across the State border. It reads as follows:

"We have had our attention drawn to the fact that a great many cars outside of Connecticut are passing through here at a rate of speed very much above the legal limits, with the mistaken idea that our law allows them unusual privileges in the matter of speed.

"There is no question but that Connecticut at the present time has a very liberal law concerning motor vehicles. It is the desire of all Connecticut motorists and, I am sure, of all motorists, to maintain the privileges we now enjoy, rather than have them removed by some future legislature.

"With that end in view I am asking you to warn your club members with regard to excesses on Connecticut roads, and to urge them to drive in a careful and orderly manner while in Connecticut."

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Standard Detachable Rim

Resolution passed by the NATIONAL ASSOCIATION AUTOMOBILE MANUFACTURERS at a meeting held in New York, August 5th, 1908.

"Whereas, the Standard Universal Rim, described in the report of "the Special Rim Committee, has been recommended by the committee "as mechanically satisfactory, be it

"RESOLVED that this association hereby adopts the rim so de- "scribed as standard, subject to the consummation by the Special Rim "Committee of satisfactory commercial arrangements with the patentee "and manufacturers."

At the above meeting all the detachable rims now on the market as well as proposed new rims were carefully considered.

THIS IS THE RIM



Standard Rim as Used for Clincher Tires



Standard Rim as Used for Dunlop Tires

Hartford Rubber Works Co.
Hartford, Conn.

Morgan & Wright
Detroit, Mich.

G & J Tire Co.
Indianapolis, Ind.

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TOO MUCH TO THE RADIATOR

The Lower Portion Useless is the Radical Conclusion of Two Foreign Experimenters—Results of Their Tests.

That the lower half of most radiators could be cut off and thrown away without impairing the engine running and that present radiator practice is very crude as compared with the scientific forms of fans and heat conducting methods that are available to motor car manufacturers are among the many radical conclusions arrived at by two disinterested experimenters, who in connection with studies of other motor car problems have been conducting a series of investigations into the big subject of radiator efficiency. The investigators are Dr. W. R. Ormandy and J. H. Lester, and the very interesting results of their laboratory proddings into the matter of engine cooling are given in the London Autocar. The attempts at tests were confined to radiators and were not extended to any complete test of the fan-pump-radiator system as a whole.

A distinct prediliction for the thermo-syphon system over the pump system exists with the experimenters by reason of the fact that their investigations show that the thermo-syphon system allows of the cylinders being warmed up to maximum efficiency temperature more quickly than with the pump system, the thermo-syphon system acting as a thermostat to maintain the temperature between narrow limits under widely divergent conditions of fuel consumption and speed. In the thermo-syphon system, the investigators maintain, the cylinder walls rapidly attain the temperature of maximum efficiency because not until this temperature is approached will there be sufficient hydrostatic head to cause that circulation which will bring a fresh bulk of cold water in contact with the walls. The rate of movement for the water is thus automatically regulated by the speed at which this temperature of efficiency is attained.

It is well known that certain portions of the cylinder tend to attain a higher themperature than the remainder and under the thermo-syphon method these portions of the cylinder are more rapidly reduced in temperature than the remainder owing to the increased velocity of circulation at these points. In the pump system, the experimenters declare, though the amount of water caused to pass through a cylinder casing may be vastly in excess of that passing in the case of a thermo-syphon system, it is possible to have strong local overheating, as the path of the water is conditioned by purely mechanical considerations, pockets and areas of comparative quiescence being of frequent occurence.

With a powerful pump and a good fan the temperature of the water when the engine is running on light load may never approach the temperature of maximum efficiency, and a pump system with its various parts so regulated that under ordinary conditions the maximum efficiency temperature would be attained, would be extremely liable to over heating under the less usual conditions of maximum load at low velocity.

In the experiments a honeycomb type of thermo-syphon radiator with fan was used, the total surface approximating 43 square feet, the front surface of the tubes being about 17 inches by 15 inches. This was mounted in connection with a 4x4¼ inch, two cylinder engine rated at 12.6 horsepower. The temperature of the radiator was obtained by inserting the bulb of a thermometer into the water entering at the top, while for ascertaining the temperature at the bottom the bulb was plugged into one of the lower air tubes. The rate of flow of the circulating water was ascertained from the gauge pressure set up in a glass tube with its open end facing the current of water entering the radiator, afterwards producing the same pressure from an external water supply and measuring the rate of flow into a gallon measure, the conditions as to levels being the same.

The principal observations were as follows: Temperature of water entering the radiator, 164 degrees Fahr.; temperature of water leaving radiator, 90 degrees Fahr.; rate of water circulation about 33 gallons per hour, or 110 seconds per gallon. Different conditions of running the engine, from light work in the experimental shed to heavy road work, showed little difference in these figures. It is assumed in the experiments that a cylinder temperature of about 160 degrees allows the maximum of power to be developed where the carburetter action is sufficiently perfect to introduce the charge in the form of a gas while a slightly higher heat is desirable where the fuel and the air enter the cylinder merely in the state of a mechanical division.

During the run of one of the tests, a period of about 25 minutes, the temperature of the radiator was observed at a point about half way down, and was found to be only 112 degrees Fahr. A comparison of the three temperatures, 164 degrees, 112 degrees and 90 degrees made it evident that the cooling effect was far greater at the top than at the bottom. This and other phenomena that were developed have brought the investigators to the conviction that the ideal design, however clumsy it might appear, would take the approximate form of a triangle with one side uppermost. Such a form, it is contended, in addition to taking advantage of the greater cooling efficiency at the top of the radiator near or at the water level, provides the best natural circulation, for it will give the greatest possible vertical head of relatively cold water in the radiator. It is asserted that such a form would permit of a construction much smaller and lighter than the usual types, for the same efficiency.

Among other improvements which the experiments suggest as practicable are the use of the sirocco type fan, which is in many respects more efficient than the conventional type. Its construction is that of a number of narrow blades arranged in cylindrical form parallel to the axis of rotation, like the bars of a squirrel cage wheel. The air enters at one or both the ends of the cylinder and is drawn out at the sides. Furthermore, radiators could be vastly improved, the experimenters believe, if instead of the air being brought through the radiators horizontally, as at present, it were introduced at the bottom and forced upward among the cooling plates or tubes, so that it would be coldest at the bottom.

Possibilities for the application of the Perkin tube system, a recent scientific development for conveying or conducting heat, are set forth as presenting food for thought. The system depends upon the evaporation of liquid from the lower end of a vertical or inclined tube or tubes sealed at both ends, the lower part of the tube being exposed to the heat and the upper to the cooling influences. The transfer of the heat from one end of the tube to the other is effected by the abstraction of the heat from the lower walls of the tube when the contained liquid is evaporated, and the dissipation of the heat as condensation takes place on the internal surface of the upper part, the condensed liquid running down to be again evaporated. Its use for cooling cylinder jackets might either be direct application to the cylinders or in connection with a special form of radiator. A suitable liquid and pressure in the tubes would make it possible to prevent any appreciable cooling effect until the temperature of maximum efficiency was reached.

In the course of other considerations in connection with cooling systems it is asserted that with the ordinary type of pumps it is almost impossible to prevent the introduction of grease into the circulating water. For the most part this grease is of a mineral origin and consequently of a non-saponifiable nature. This renders the task of removing the greasy film from the surface of the cooling area very difficult, because, unlike vegetable oils, mineral oils are not converted into soaps soluble in water by the action of caustic alkalies. From this, it is argued, it is wiser to use tallow or similar grease for the lubrication of the pump spindle, so that from time to time the water system can be thoroughly cleaned out by means of alkaline solutions. The remarkable influence exerted by even a microscopical thin film of grease in preventing the passage of heat through metal surfaces is well known to those who have studied the subject of economical steam raising but is little understood by most people. The decreasing efficiency which afflicts many pump cooling systems after the lapse of a few months' running is in many instances due to the formation of an oil film in the water jackets of the cylinders.

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PUBLIC GASOLENE SUPPLY TANKS

As Necessary as Drinking Troughs for Horses, Farson Tells Chicago Horsemen—The Idea Catching on.

Thirsty automobiles that want water or gasolene should have street fountains for their accomodation just as horses do, according to John Farson, the Chicago motorist who has been prominent in automobile club and legislative matters, and so strongly does Farson believe this to be the case that he almost broke up a meeting of the directors of the Oak Park horse show by urging that a part of the horse show surplus funds be used in erecting his proposed gasolene tanks. In fact the staid directors of the horse show fund almost fell over with surprise and indignation when the real significance of Farson's suggestion penetrated their full consciousness, and there was a torrent of acrid and heated remarks concerning the propriety of an association for horse uplift rendering such Quixotic service to suffering motor cars. But when Farson looked the directors over and pointed out that practically every one of them uses an automobile instead of horses, he was able to get a better hearing for his proposal.

It had been decided by the horse show directors to divide the profits of the last show into four portions, each of which was to be devoted to a public purpose. Three of these had been disposed of when the disposition of the fourth came up for discussion. When the difficulty of selecting a suitable method of disbursing it was encountered, Farson made his suggestion of gasolene tanks, and after the first excitement was over, succeeded in bringing many of the directors to his way of thinking, and it is not improbable that the money will be spent in Oak Park to erect the stations.

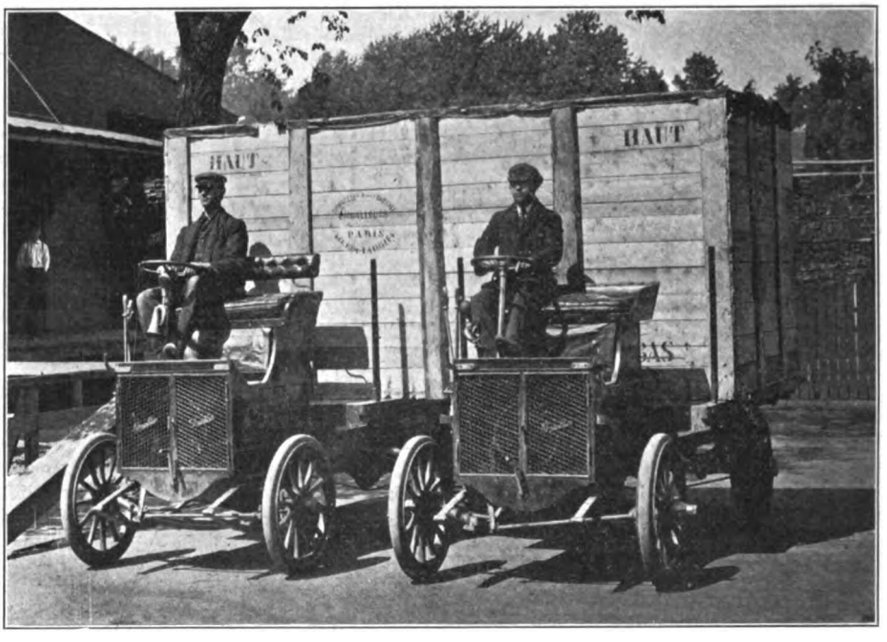
"If these tanks for the use of automobilists would be good for Oak Park," said Farson, in explaining that his idea had a wider application, "there is no reason why they should not prevail all over Chicago. We have municipal watering troughs for our thirsty horses—why not municipal gasolene tanks for automobiles? Such tanks would not only be a convenience, but a positive step in advance for the city and its suburbs."

No Automobiles in Meade County.

In contrast to other localities which are claiming the largest proportion of automobiles in relation to population, Meade county, in South Dakota, claims distinction by reason of not having an automobile owned within its borders. This circumstance is not due to any prevailing indigence, but to the fact that all motor car agencies are far away and the residents with money have not had their thoughts turned toward automobile purchase. The recent passage of several machines through the county, however, has started a local movement for a prize to the first man within the lines who will buy a car.

Working Motor Trucks in a Team.

"Some things can be done as well as others," is a saying attributed to Sam Patch, an old time celebrity, and it is strikingly verified in the accompanying picture. The driver of either of the pair of Franklin motor trucks might well have exclaimed "That's the limit!" when brought up against the proposition to move the huge package of freight shown therein. But "where there's a will there's a way," and the way evidently was found. It is apparent that two motor trucks could not be employed tandem fashion, as may be done with some of the horse drawn vehicles, so the big box was loaded upon the two trucks placed abreast. Then all that was necessary was for the drivers to co-operate with care in the manipulation of the wheel and the regulation of speed.



FRANKLIN MOTOR TRUCKS "TEAMING"

Highland Park Will Permit Banners.

In spite of the failure of the legal committee of the local automobile club to get permission to string banners or warning signs urging motorists to beware of the speed laws, Judge Housell, of Highland Park, N. J., later changed his mind and has notified the club that it may hang a warning. So radical has been his conversation to the value of the club's idea that he says he will put up the banner at his own expense if the club does not provide one.

In Indianapolis, Ind., nearly all the wholesale paper manufacturers employ motor trucks to carry their product to the freight yards. The power vehicles have proven more practical than those drawn by horses.

NO DAMAGES FOR SPOILED ATTIRE

State Disclaims Liability for Spatterings from Oil Dressed Roads—Massachusetts Attorney-General's Opinion.

In answer to a request from the highway commission of Massachusetts, the Attorney-General of the State has rendered an opinion on the subject of the State's liability for damages caused to wearing apparel which has been spattered by oil on oil dressed roads. The Attorney-General holds that as there is no law to cover the subject, there can be no liability on the part of the State. He is of the opinion that the statute limits the recovery of damages to "want of repair" and to "defects in the highway." He held that the application of tar or oil does not constitute a "want of repair" and the term "defect" is not defined in the statutes. Continuing, the Attorney-General says:

"In order to constitute a defect within the meaning of the statute it is necessary that there should be something in the condition of the highway, either by reason of its construction or want of repair or in the nature of an obstruction, which is dangerous to the safty of the traveler and not merely damaging to appearance of his attire or the conveyance in which he travels."

In relation to cases where there were signs showing that the road was under repair the Attorney-General holds that the only inconvenience occasioned was the necessity of seeking another route. He holds that even if the application of the oil was improper or negligent on the part of the contractor or the agent of the Commonwealth it would not constitute a defect in the highway.

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ANTI-SMOKE ORDINANCE STANDS

New York Park Board Sustained by Supreme Court Justice Dugro—Unqualified Decision in Test Case.

It is likely that the New York City park ordinance excluding smoking automobiles from Central Park and other parks will stand for a while, at least. Judge Dugro in a special term of the Supreme Court on Monday dismissed the writ of habeas corpus procured last Thursday in favor of William C. Tupper, a taxicab driver in the employ of the New York Taxicab Company, who was arrested on the charge of driving a smoking automobile in Central Park. The Court said that in his opinion the Park Board had not exceeded its general police power in passing such an ordinance and that it was not for the Court to determine whether or not the requirements of the ordinance were reasonable.

The New York Taxicab Co. sought to make a test case of Tupper's arrest and got out a habeas corpus writ before he had been arraigned in police court. Tupper was arrested while driving a taxicab containing Joseph H. Higgins, general superintendent of the company, and J. B. Kerr, counsel for the taxicab company.

Kerr tried to convince Justice Dugro that Park Commissioner Smith had exceeded his legal powers in making such an ordinance. The judge, however, said that the Park Board was in a better position than the court to determine what was a reasonable ordinance and what was proper for the regulation of the parks. Kerr contended that the ordinance was unreasonable; that it was too indefinite and did not impose any punishment for its violation. He said that it merely directed that smoking automobiles and cabs should not be used in the park.

Assistant Corporation Counsel George P. Nicholson insisted that the ordinance was a legal and proper one, and that having been duly filed, it carried with it the penalty provided for such ordinances provided by the city charter.

Justice Dugro overruled all the objections urged against the ordinance by Tupper's counsel.

"Who is to determine whether the ordinance has been violated?" inquired Lawyer Kerr when he heard the Court's ruling.

"Why, the police officer," replied the court.

Kerr remarked that it was placing a great power in the hands of the police, when the judge interjected:

"It is the same power that the police exercise and have to exercise in every case where a law or an ordinance is violated."

Justice Dugro then remanded Tupper to the jurisdiction of Magistrate Harris, who was sitting in Yorkville court, and who promptly fined Tupper $1.

"But, your honor," complained Tupper, who was sideflanked by his lawyer and employer, "no gasolene car can be driven without emitting some vapor."

"Then let them keep out of the parks," was the magistrate's advice as he called the next case.

The fine was paid, but there was some talk of an appeal.

Ducking Automobilists to Check Speed.

Out in Kansas a man by the name of D. A. Harrington recently devised a plan of his own to stop automobile speeding past his home. His scheme was an ingenious one and would have done credit to almost any small boy, for it consisted merely in squirting a garden hose at cars as they whisked by. Harrington had a whole bushel of fun, playing the stream of sparkling water on the many unsuspecting motorists and laughing with great joy every time he landed a good bull'seye shot and soaked a few people. Harrington calculated that automobilists would soon cease to drive past his Kansas City home, but this was an error of judgment, for the State of Kansas is now attempting to prosecute him on a charge of assault. For H. M. Beers did not relish Harrington's joke and filed a complaint against him.

The complainant's daughter, while out riding a short time ago with friends, was drenched. Accordingly Mr. Beers and his daughter insist that Harrington should be punished. The charge was not because of any damage sustained by the car or its occupants, but simply for the assault itself.

When the trial took place last week, 47 witnesses were subpoenaed in the case, many of whom were fashionable residents of the neighborhood, where the squirting took place—most of whom testified. Miss Beers and others swore that her automobile was running very slowly. It was an all-day trial, the jury being charged at 4 p. m. That night, the twelve men announced that the could not agree on a verdict, so tha justice was forced to grant a new trial. Meanwhile Harrington has suspended his squirting operation.

How Wareham is Checking Speeding.

Speed banners as a means of reducing the number of cars that rush through the town's main street at a dangerous pace have been found successful in Wareham, Mass. The automobile club of that place has had the flaring banners up for about a month on the road approaches to the business portion of the town and motorists in general have respected the requests for slow speed. The few exceptions have had their numbers taken and are being written to by the club, asking a more courteous observance of the club's signs. Wareham is one of several towns in Massachusetts where this plan is on trial. It was one of the towns noted for its "traps," the operation of which has been suspended pending the success of the banner experiment.

BUMPERS FOR GRADE CROSSINGS

Long Island Railroad President Evolves Scheme to Halt Reckless Chauffeurs—Its Adoption a Probability.

President Ralph C. Peters, of the Long Island Railroad Company, who of late has been paying as much attention to automobiles as he has to the net work of rails and tracks which cobweb Long Island, has hit upon a happy scheme to eliminate or reduce grade crossing accidents. At least, Mr. Peters considers the scheme a good one, and this opinion is held also by Alfred J. Eno, president of the Long Island League; A. R. Pardington, general manager of the Long Island Motor Parkway, and John L. Webb, chairman of the committee of safety of the Long Island Automobile Club.

These gentlemen met in Mr. Peters' office in Long Island City on Monday afternoon and after mature deliberation evolved a plan for establishing a series of bumps that will outbump the Glencoe, Elgin, Aurora, and other excrescences designed to put the "kibosh" on speeding tendencies of reckless chauffeurs.

In short, it is planned to construct a hummock about a foot high in the road on each side of the grade crossing and 150 feet from them. It is figured that drivers will then be compelled to slow down or run the risk of breaking the springs of their cars. Mr. Eno said that this plan had worked in Babylon where all other methods to stop the reckless speeding of motor cars had failed.

President Peters contended that flagmen at grade crossings are practically useless and that it would be impossible to place a watchman at every crossing, as there are 429 of them on Long Island. He said that his company would be willing to bear half the expense of constructing the bumps and Mr. Eno said that he would take it up with his league and propose that it bear the other half.

One of the attendants at the meeting proposed that the railroad company make depressions in the road instead of bumps, but when it was pointed out to him that the hollows in the road could not be seen by approaching drivers, while the bumps would appear formidable from a distance, he was won over to the original plan.

Automobile Road to Succeed Tow Path.

The old tow path of the long abandoned Pennsylvania canal along the picturesque lower Susquehanna is to be converted into an automobile road. The Wrightsville and Chanceford Turnpike Co. is planning to make the tow path part of a motor road system between Wrightsville and Long Level, Pa., opening up a wealth of beautiful scenery to the tourist.

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CONEY ISLAND COPS CAPTURE CARS

Unattended Vehicles "Arrested" and Locked Up—Wobbly Wheels Cause One to Register as a 'Plain Drunk."

It was an eventful night when seven touring cars, which were standing untenanted and untethered to posts along Surf avenue, Coney Island, were confiscated by Capt. Kelly, of the Coney Island police force, from which one would be led to imagine that the captain is fond of fine automobiles. The charge against these seven arrested cars, however, was that they were without care takers and obstructing traffic. The machines were also charged with vagrancy. One had wheels that wobbled and it was entered on the blotter as a "plain drunk," it is said. Pursuant to this, all seven cars were sent from the station house at 2 a. m. to be locked up in a garage on West Seventieth street, and the captain's command was that they should not be removed until he gave orders for their release. All remained there over night except two. One was bailed out by its owner and the other broke jail and escaped, which greatly displeased the captain's subordinates when it caused the captain to become exceedingly riled.

Not until after much long delay and payment of storage charges, could the drivers obtain their cars and at that, the owners had to promise solemnly that they would never again permit their cars to be on the streets alone after dark and obstruct traffic along the busy and brilliant main thoroughfare of the gay summer city by the sea.

The crusade, it is said, follows a complaint in court recently when a taxicab chauffeur and a cabby fought after being arrested for obstructing the highways. The taxicab people complained that if they were kept on the move every one should be treater alike and thereupon the crusade against private cars began. It seems that the captain started out about 1 a. m. with a squad of reserves in plain clothes. He hailed two men who could run automobiles and after enlisting them as volunteers, detailed them with the reserve squad. The reserves were given orders to pick up every car that was without an attendant along Surf avenue. The policemen went forth and the first "capture" was in front of Henderson's. There was a large 90 horsepower gray Thomas touring car which seated eight persons on the street close to the curb. No one was watching it and one of the "volunteers" took his place at the steering wheel and piloted the car to the police station.

The chauffeur was again sent out, and found another car near the corner of Henderson's walk and Surf avenue in charge of a sleuth. It had been captured without a struggle, while the owner was apparently looking upon the wine when it was pink. It was sent to the station, too. By this time word began to get around that the police were picking up the cars, and the chauffeurs sat on their machines and gave the policemen the laugh. At least the majority of them did. Seven altogether were amiss, and their machines were taken to the station.

About 3 G. M., John Comparr, who gave his address as the New York Yacht Club, appeared and reported that his car had been stolen. He was asked where he had left the machine and gave a description of it. Capt. Kelly in person took the complaint and recognized the machine which fell into his care first, a big gray touring car. Mr. Comparr was given a severe lecture about the evils of leaving a machine to block the highway and an order on the manager of the garage for his machine. He paid the storage charges, got his machine and left the Island.

Then Capt. Kelly waited for other complaints, but none came. The owners, it was said, had received a "tip" that the police had their cars and they refused to make a break to get them until they could learn the nature of the charge against them. Some of the machines could not be removed by their owners for a couple of days, as the morning after the raid, the captain went off on a little vacation. Beware the Coney cop, my son!

Losing a Passenger En Route.

If Genevieve's mother had particularly impressed upon you the fact that you must drive very carefully, because it would break her heart if anything should happen to her only daughter, and you had solemnly promised to pay strict attention to driving and use both hands on the steering wheel, and to prove it had put Genevieve in the rumble seat while you took the seat in front —(take a breath here)—and bearing mamma's injunction in mind all the while you had carefully watched the road ahead for seven miles, not turning around once for a chat-a-chat, until you drew up to the ice cream parlor and jumped out intending to help Genevieve alight when—say, wouldn't it make you feel like a limp dish rag if no Genevieve was there?

Well, that is the way F. L. Dayton felt when he slowed up at Mount Carmel, Conn., late Saturday night and found that his young woman companion had been bounced from the rumble seat some place between there and seven miles back. Dayton drove back slowly and searched for miles, but no trace of his erstwhile rumble seat companion could be found, and inquiry at the hospitals did not give him any information. In fear and trepidation he made his way to Miss Genevieve's—or whatever her name was—home, and what was his surprise to find her safe and smiling. Although it has not officially been confirmed it is thought that Dayton will remove the rumble seat from his car, at least when he takes Miss What's-her-name out again.

AUTOMOBILES BANISH MOSQUITOES

Long Island Paradise Where the Buzz and the Bite are Unknown—A Summer Colony of Motorists.

One of London's brilliant scientists declared a few days ago that fumes and smoke coming from the exhausts of motor cars killed germs and bacteria and bacilli and the like. Whereupon other scientists made a guy of him. Nevertheless, smoky exhausts will do something just as important, according to the cottagers of Southampton, Long Island, for they have discovered that gases pouring from the cylinders kill mosquitoes. Long Island has long vied with New Jersey as a mosquito reservation and the newly discovered means of getting rid of these annoying birds is a boon to Southampton's residents. According to reports, everyone who drives a motor car is assisting in the extermination by burning quantities of cylinder oil and shooting the smoke all along the line. It is not pleasant for the natives, but they are putting up with the treament, since the mosquito crop is noticeably diminishing.

Old Agawam Lake, on which is the residence of Elihu Root, occupied this season by Nathaniel Holmes; the residence of Col. Robert M. Thompson, J. P. Robb, and that of Stephen Peabody, is being freed from the pests. Along Job's Lane, at the foot of the lake, run daily the eight cars of Hugh J. Grant, ex-Mayor of New York; the four of August Belmont, Jr., three each of James Parrish and Stephen Peabody, and the two of Dr. Maitland Alexander. Before the season is over, these residents of the cottage colony expect to get in some good work, and the dealers in summer board will be able to truthfully advertise: "Delightful country—no mosquitoes!"

Working for Speed Law Observance.

The Automobile Club of Bridgeport, Conn., has been doing good work lately in endeavoring to have automobiles observe a reasonable rate of speed. Circular letters have been sent to the members by the Public Safety Committee, giving the sections of the law most often violated and asking members to join in supporting the law, for which the club was partly responsible in having it passed, and which is one of the most liberal in the country.

The Public Safety Committee has been following up this action with personal letters to owners of cars where flagrant violations of the law have come to its notice. On a recent Sunday the committee placed flagmen on Connecticut avenue, a wide and much traveled thoroughfare, forming the eastern approach to the city. Automobilists were halted and handed a card which asked that a reasonable speed be preserved on this street and through the city.

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The Week's Patents.

889,960. Running Gear for Vehicles. Isaac E. Palmer, Middletown, Conn. Filed Nov. 20, 1907. Serial No. 402,954.

1. In running gear for vehicles in which the members of a pair of wheels to the rear of a pair of steering wheels are arranged out of transverse alignment, means for swinging a rear wheel out of its normal plane to compensate for lateral drag in turning a curve.

889,996. Automobile. George A. Weidely, Indianapolis, Ind., assignor of one-half to Harold Smith, Indianapolis, Ind. Filed June 1, 1907. Serial No. 376,824.

1. In a motor vehicle, the combination, with the driving shaft, of a carrying wheel mounted upon said shaft and having a rotative engagement therewith, of a bearing engaging both the shaft and wheel, and a second bearing for said shaft.

890,571. Gas Engine. Ransom E. Olds and Horace T. Thomas, Lansing, Mich., assignors to Reo Motor Car Company, Lansing, Mich., a Corporation of Michigan. Filed July 10, 1907. Serial No. 382,976.

1. In a six-cycle gas engine, an exhaust apparatus adapted to relieve the pressure toward the end of the working stroke, a second exhaust apparatus adapted to convey the products of combustion remaining after the gases under pressure have been exhausted, and means for holding said second exhaust apparatus open for the intake and discharge of a scavenger charge, for the purpose described.

890,589. Transmission Gear. Elijah W. Potts, Detroit, Mich., assignor, by direct and mesne assignments, of two-sixteenths to Albert W. Wadsworth, one-sixteenth to Samuel P. Bradley, one-sixteenth to Louis Cohn, and one-sixteenth to Theodore L. Wiggins, Detroit, Mich. Filed Jan. 2, 1906. Serial No. 294,124.

1. In a transmission mechanism, the combination with the driving shaft, of a driving gear wheel supported by but rotatable independently of said shaft, gearing for driving said gear wheel indirectly at variable speeds, comprising gear wheels rotatable in unison loosely mounted on the driving shaft, means for locking said gear wheels to the driving shaft, and means for connecting the driving gear wheel directly to the driving shaft to afford a direct drive and for disconnecting all of the gears of the mechanism from the driving shaft.

890,615. Automobile. Albert G. Davis, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 8, 1904. Serial No. 192,479.

1. In a self-propelled vehicle, in combination with the frame thereof, a prime mover, an electric generator having its moving member mounted on the shaft of the prime mover, an electric motor having its shaft in line with the shaft of the prime mover, and an auxiliary frame supporting said prime mover, said generator and said motor, and suspended from the said vehicle frame.

890,654. Motor Vehicle. Russell Huff, Detroit, Mich., assignor to Packard Motor Car Company, Detroit, Mich., a Corporation of West Virginia. Filed Oct. 21, 1907. Serial No. 398,451.

1. In a motor vehicle, the combination with the frame, of a baggage rack pivotally attached to the rear part thereof, and steps attached to the spring hangers for supporting said rack.

890,666. Brake Mechanism for Self-Propelled Vehicles. Hermann Lemp and Henry S. Baldwin, Lynn, Mass., assignors to General Electric Company, a Corporation of New York. Filed Aug. 7, 1905. Serial No. 272,990.

1. In a motor car, the combination with a floating axle, of a tubular axle thereon having pins at one end, and a driving wheel on said floating axle having a brake flange engaging with said pins.

890,667. Weather Screen for Motor Vehicles. Joseph Lingley, Peckham, England. Filed May 6, 1907. Serial No. 372,225.

1. In a wind screen for vehicles, a fixed lower part carried by standards and an upper movable part centrally mounted upon centers permanently fixed at the upper ends of solid arms the lower ends of which are mounted upon centers permanently fixed upon the lower fixed part and means for fixing the arms at any desired angle with the lower fixed part and means for fixing the upper movable part at any desired angle with the arms substantially as herein shown and described and for the purpose stated.

890,671. Pneumatic Wheel for Vehicles. Bryce J. Macaulay, Eastbourne, and James A. F. Hall, Hampden Park, near Eastbourne, England. Filed Aug. 12, 1907. Serial No. 388,220.

The combination with that class of pneumatic wheel wherein a supplementary trough shaped tire has its flanges outside the sides of the rim of the felly and wherein the air tube is situated between the rim or felly and the bottom of the said trough shaped tire, of an outer thickened tread, slanting pockets or recesses on or in the outside of the flanges of the supplementary tire, arms attached so as to revolve with the wheel and having correspondingly slanted outer ends which enter easily the said pockets or recesses, resilient cushions at the bottom of the pocket or recesses, and emergency blocks by which the wheel and tire can be held rigidly to the wheel, substantially as hereinbefore described.

890,725. Valve Remover. Berndt A. Swenson, Providence, R. I. Filed Feb. 24, 1908. Serial No. 417,260.

1. In a valve remover, the combination with the body, of supporting means upon the upper portion of the body, a forked member slidably mounted in the lower portion of the body, and cam means upon the body operatively connected with the forked member for actuating said member.

890,742. Liquid Gage. George E. Whitney, East Boston, Mass., assignor, by mesne assignments, to Stanley Motor Carriage Company, a Corporation of Massachusetts. Filed July 26, 1902. Serial No. 117,107.

1. In a liquid gauge, a liquid chamber, a transparent wall therefor and a reflecting surface within said chamber presenting a portion inclined at an angle with said wall in a vertical direction.

890,875. Awning and Dust Screen for Vehicles. Henri S. Samuel, Paisley, Scotland. Filed April 18, 1907. Serial No. 368,925.

1. The combination of a vehicle, a rear frame pivotally connected thereto, means for holding the frame in an upright or in an inclined position, additional frames re-

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movably held upright in the vehicle, a rotatable roller extending across the rear of the vehicle, means for supporting the roller, a sheet wound on said roller and extensible therefrom, and securing means carried by the sheet whereby it may be secured over the vehicle to form an awning or to the rear frame to form a dust guard.

890,963. Running Board for Automobiles. Howard E. Coffin, Detroit, Mich. Filed July 18, 1907. Serial No. 384,304.

1. The combination with a running board, a side sill of a vehicle frame and a shield; of a hanger for said running board consisting of a struck up sheet metal arm of U-shape section, said arm curving from a vertical to a horizontal plane, flanges on said vertical portion for engaging said side sill and out-turned flanges upon said horizontal portion for engaging said mud shield.

890,970. Carburetting Apparatus for Explosive Engines. Fritz Durr, Karlsruhe, Germany. Filed March 2, 1907. Serial No. 360,174.

In a carburetter for explosive engines, the combination of a reservoir having therein a centrally arranged tube the lower end of which is above the bottom of the reservoir, and said tube being provided with apertures adjacent its upper end, a cap closing the upper end of the tube and forming an annular chamber about the apertured section thereof, an inwardly opening valve closing an air inlet in a wall of the cap, a hydrocarbon nozzle extending into the central tube, and an annular valve surrounding the tube within the cap and adapted to regulate the passage of air through the apertures in the tube, substantially as described.

890,981. Suspension Frame for Automobiles. Reinhold Herman, Crafton, Pa. Filed April 25, 1906. Serial No. 313,525.

1. An automobile comprising a front and rear axle, a bolster upon each of the axles, a pair of superposed frame members, the upper of which is fixedly connected to the front bolster and movably connected to the rear bolster and the lower of which is movably connected to the front bolster and fixedly connected to the rear axle and a motor supported from said lower frame member at the front thereof.

891,017. Coil Box Switch for Ignition Systems. Richard Varley, Englewood, N. J., assignor to Varley Duplex Magnet Company, a Corporation of New Jersey. Filed March 25, 1907. Serial No. 364,496.

1. In a coil box switch, a coil box having a recess in its front face, blocks in said recess, spring blades projecting downward in parallel directions from said blocks, a rotatable block having segments movable to engage certain of said blades, and having a depending lever, and a plug adapted to be inserted between the remaining of said blades to complete a circuit connection there between.

891,030. Armor for Rubber Tires. Vendel L. Bekefi, Cleveland, Ohio. Filed Dec. 9, 1907. Serial No. 405,678.

An armor for rubber tires consisting of a series of overlapping plates substantially U shape in cross ection, and each plate having a transverse depression at one end and outward projections at the ends of said depressions and open slots in the other end lengthwise of the plate engaged by the said projections on the adiacent plate, in combination with a wheel and tire and means to secure the armor on the tire.

891,051. Automobile Construction. Godfrey Engel, Pittsburg, Pa. Filed Sept. 6, 1906. Serial No. 333,456.

1. In a motor vehicle, the combination of a twin engine having multiple cylinders arranged in two rows, each row being connected to a separate crank shaft, the said crank shafts being geared one with the other, and means independent of the gearing between the crank shafts for transmitting power from said crank shafts to the driving agency of the vehicle.

891,169. Spring Tire. Bernhard Hilger, Elgin, Ill., assignor to Frank J. C. Krahn and Morritz Bautsch, Elgin, Ill. Filed June 19, 1907. Serial No. 379,787.

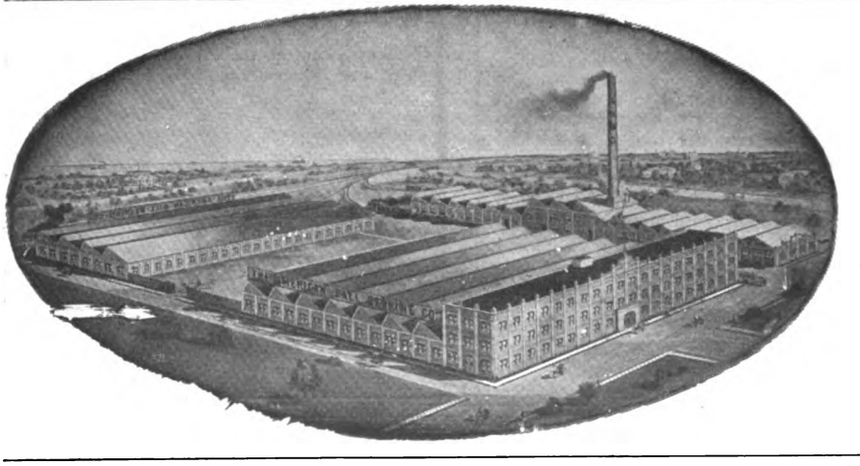
In a wheel, a felly, an outer rim, springs interposed between said felly and rim, a plurality of clips carried by the rim and formed with a portion extending transversely of said rim and with down-turned end-portions, cover plates secured to said down-turned end-portions of the clips, a packing, comprising a strip of soft material, interposed between said cover plates and said rim, and a packing, comprising a strip of soft material, interposed between said springs and said felly and covering the entire periphery of said felly and extending beyond the sides thereof and against said cover plates.

891,172. Wheel Rim. Ernest Hopkinson, East Orange, N. J., and Thomas Midgley, Hartford, Conn.; said Hopkinson assignor to The Hartford Rubber Works Company, Hartford, Conn., a Corporation of Connecticut. Filed July 5, 1906. Serial No. 324,762.

1. In a wheel rim, the combination with a main rim member, of a removable side flange, means for contracting and expanding said side flange, said means comprising a member threaded adjacent to each end, the threads at one end being opposite in direction to those at the other end and adapted to engage threaded sockets in the ends of the side flange, a worm pinion fixed on said member, and a worm in mesh with said worm pinion.

891,219. Carburetter. Albert W. Menns, Malden, Mass. Filed March 6, 1907. Serial No. 360,847.

1. In a carburetter, the combination of a main outlet therefrom for the vaporized mixture, a plurality of float chambers adapted to contain hydrocarbon liquid, a hydrocarbon passage from each of said float chambers, a plurality of mixing compartments each of which communicate through one of said hydrocarbon passages with a float chamber, an air inlet to each of said mixing compartments, an outlet for the vaporized mixture from each of said mixing compartments, and a valve interposed between the said main outlet and the individual outlets or passages from the said mixing compartments, said valve being adapted to cut off one or more of said compartments from the said main outlet.



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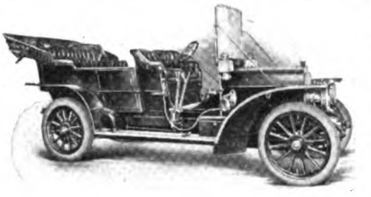
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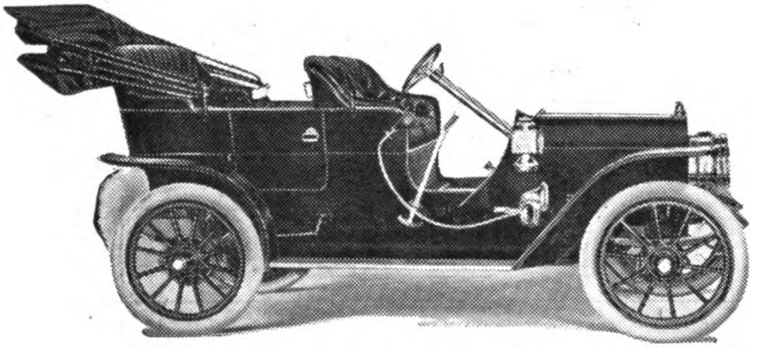


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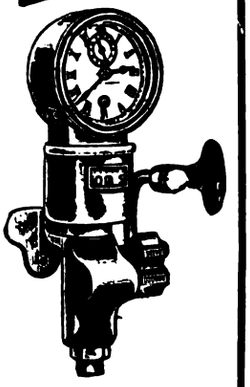
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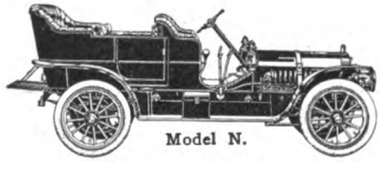
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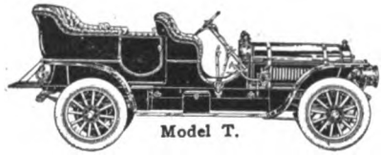
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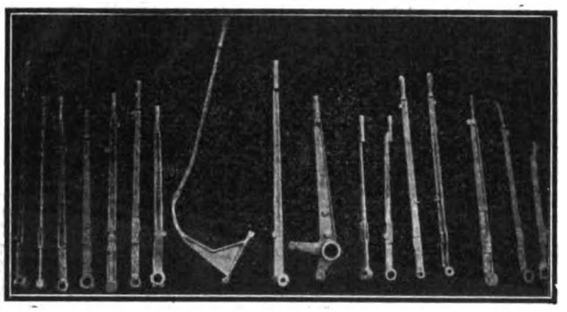
Trusting this letter may be of benefit to you, I remain, Yours very truly, (Signed) JOSEPH A. WEBBER, Lieut., Aide to Chief.

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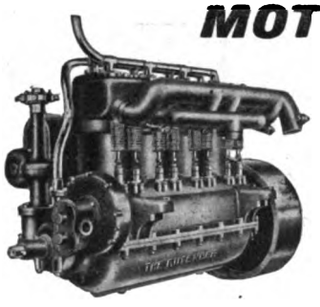
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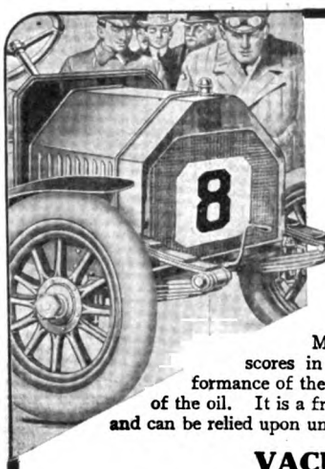


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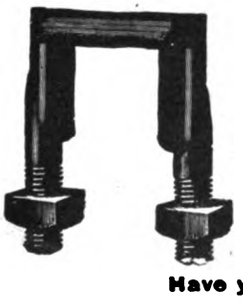


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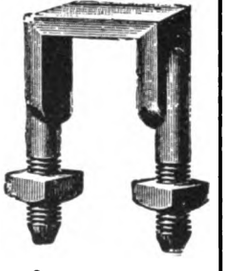
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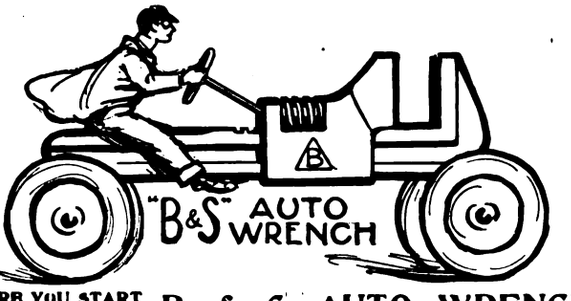
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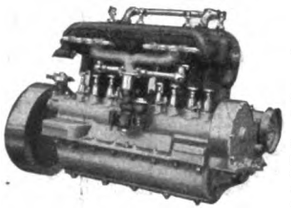
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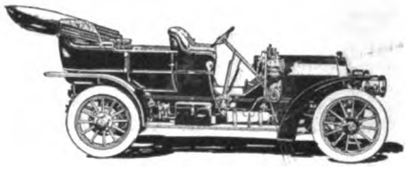
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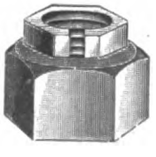
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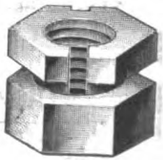
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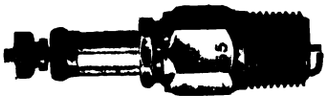
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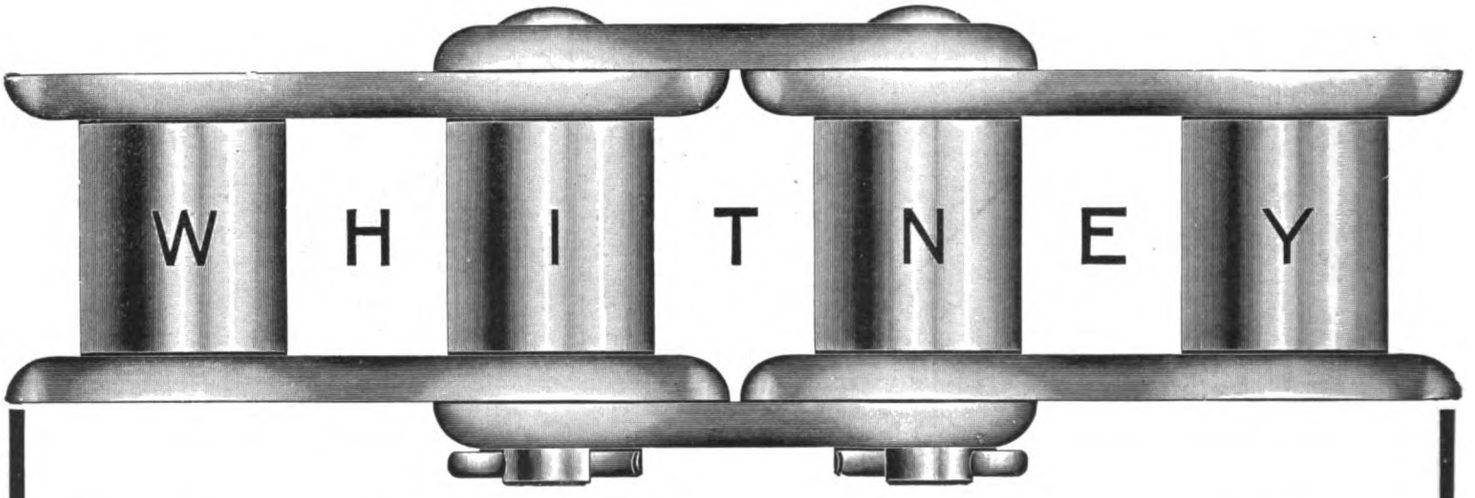
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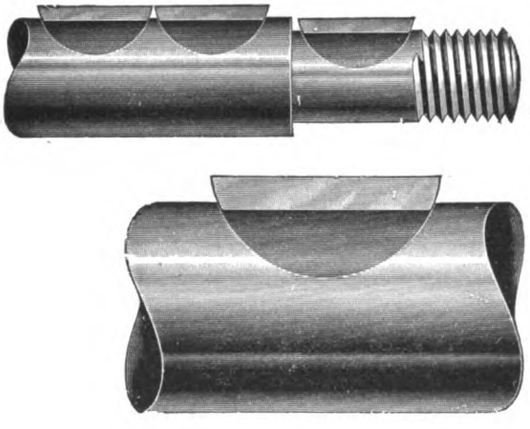
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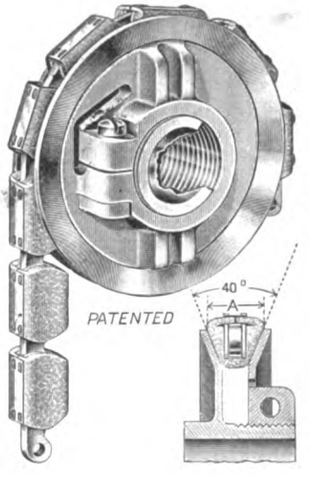


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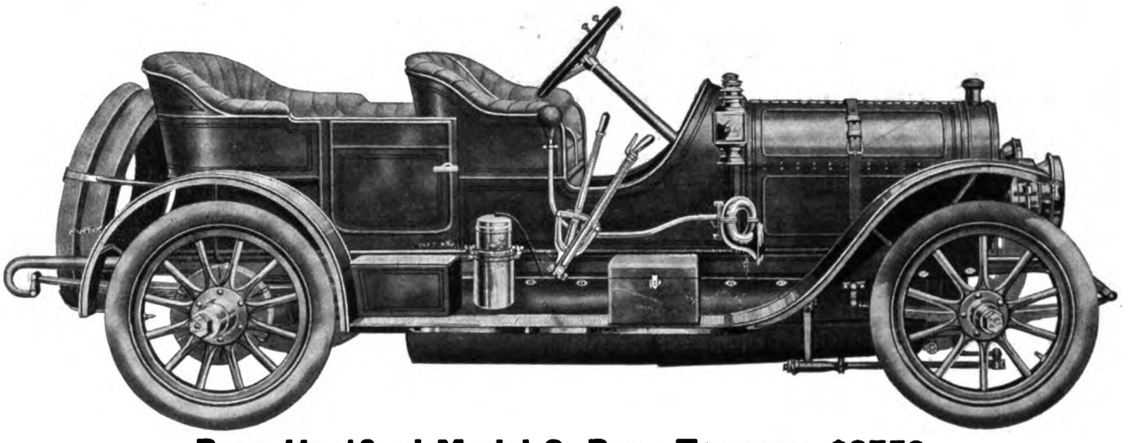
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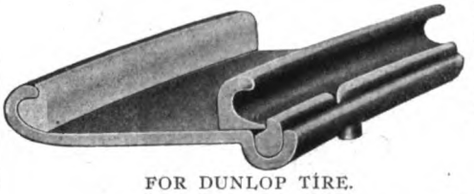
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The Standard Universal Quick Detachable Rim



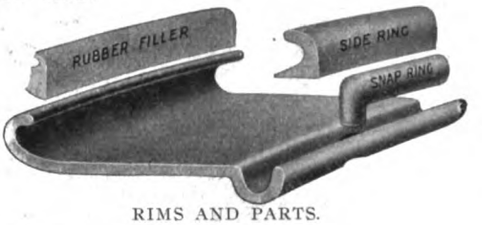
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All side plates on both sides of the Brampton Chain are stamped **"BRAMPTON."**

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement. THE BRAMPTON CHAIN is made of self-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like **THE CELEBRATED BRAMPTON CHAIN** because some of the other chain makers began to copy the design and shape of the **BRAMPTON CHAIN** links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the **BRAMPTON CHAIN** than ever before. These chains somewhat resemble the **BRAMPTON** in appearance, but the manufacturers of such chains have been unable to copy the material —self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the **BRAMPTON MOTOR CHAIN** in the past ten years.—**"ENUF SED."**

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the **BRAMPTON FILLS THE BILL**, and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size. We have in stock chains to fit all American and foreign cars.

YOUR 1909 CAR

You can have the new car that you order fitted with the **CELEBRATED BRAMPTON CHAIN** if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.
Agents wanted in unoccupied territory. Catalog on request.

Manufacturer, Jobber, Exporter and Importer

CHAS. E. MILLER, Main Office: 97-99-101 Reade Street, New York

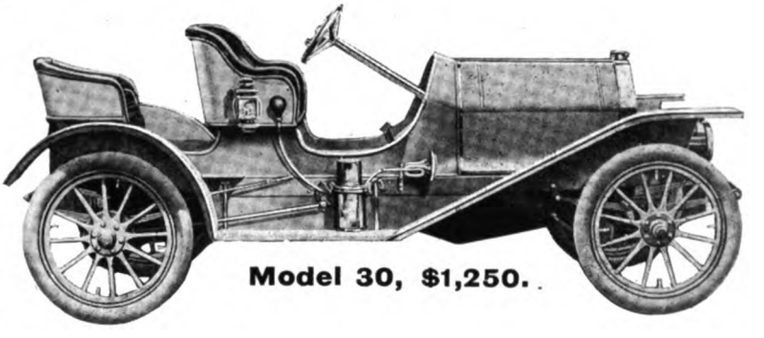
BRANCHES: 54th St. and 8th Ave., New York. 202-204 Columbus Ave., Boston, Mass. 318-320 N. Broad St., Philadelphia, Pa. 227½-229 Jefferson Ave., Detroit. 1829 Euclid Ave., Cleveland, O. 1392 Bedford Ave., Brooklyn, N. Y. 824 Main St., Buffalo.

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1909

Overland

"ONLY PEDALS TO PUSH"



Model 30, $1,250.

The Overland model 30 embodies all the sterling features of the 1908 model 24, but is larger, more powerful, more roomy and more fully equipped car.

There are 400 satisfied owners of model 24s, booting the Overland cars throughout the country.

Every dealer who handled the Overland during last season has applied for the agency this year—none of them lost money.

We still have a little unoccupied territory
We have a liberal contract
We are in shape to make early deliveries

Write for our specifications and particulars of our four and six cylinder Touring cars.

OVERLAND AUTOMOBILE COMPANY

INDIANAPOLIS, INDIANA

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TIME WAS when tire worry spoiled much of the enjoyment of motoring and the motorist who footed the bills had no voice in the matter.

THEN CAME THE AJAX wrapped tread tire with its superior services.

AND NEXT THE AJAX 5,000 MILE GUARANTEE

—If the user of Ajax tires fails to obtain 5,000 miles service from his tire, it is for us to worry—not him, and we make good.

WITH AJAX TIRES the tire problem resolves itself into a plain proposition. We know that they will do, and we offer you the best kind of an insurance for expressing your willingness to find out for yourself.

IS THERE ANYTHING MORE BUSINESS-LIKE THAN THIS?

Write for copy of Guarantee, stating what size tire you are using. Address Dept. A.

AJAX-GRIEB RUBBER COMPANY

GENERAL OFFICES: N. E. Cor. 57th St. and Broadway, New York
Factories: Trenton, N. J.

BRANCHES:

New York, 1776 Broadway
Boston, 819-a Boylston St.
Chicago, 1418 Michigan Ave.
Detroit, 743 Woodwood Ave.
Denver, 1529 Cleveland Place
Seattle, 1102 Broadway
San Francisco, 460 Golden Gate Ave.
Los Angeles, 1040 S. Main St.

Agents in all large cities.

You Can Afford the

$2000 Mitchell

—Afford to **buy** it because it is moderate in price.

We know you can afford to **keep** it, because we have many letters from users of Mitchell, testifying from actual daily experience, that it is the most economical car to **operate.** Before **you** buy a car, send for these letters and try a Mitchell in a 50 or 100-mile road test.

In demonstration, you'll notice not only that its style, finish and construction is equal to that of the extravagantly high priced cars, but that its **performance is too.**

Proof is easy, Mr. Business Man.

The Mitchell Agent will be glad to take you out at any time you say. Just call him up—no obligation on your part.

Try the $2,000 Touring Car—the $2,800 Limousine—the $1,250 Roadster or the $1,000 Runabout.

Get demonstrations of high priced cars and compare the Mitchell with them.

Call up the Mitchell Agent to-day and just say

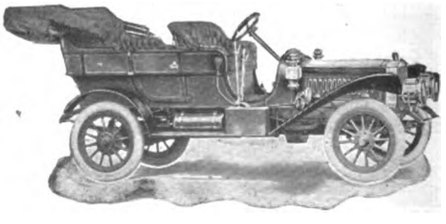
"Show Me."

The Mitchell Touring Car shown below is 35 H. P.—4-cylinder—speed, 50 miles—finish, Mitchell blue—price, $2,000.

Write for Catalogue No. 18, describing the other Mitchell models.

Mitchell Motor Car Co., 286 Mitchell street, Racine, Wis.

Standard Manufacturers,
A. M. C. M. A.



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Mongrel or Thoroughbred?

NOW IS THE TIME for you, Mr. Thoughtful Dealer, to decide what you will sell in 1909.

WILL IT BE A MONGREL? a car assembled from parts carried together from all over the country and hammered into shape as well as may be?

OR WILL YOU SELL THE THOROUGHBRED—a homogeneous mechanical masterpiece, every single part of which is the result of the same genius that devised the whole?

"ASTOUNDING," "MARVELOUS," "WONDERFUL," are the terms with which some assembled cars are now tagged, though they are astounding, marvelous and wonderful only to the assemblers, who like Rip Van Winkle, have been dozing in the growing woods of automobiledom and who now, bewildered by the progress that has been going on, seize upon time-tried and long-established practices and herald their adoption by the assemblers as brand-new discoveries.

LET'S REASON IT OUT: On the one hand you have the assembled car, with an engine bought from one manufacturer, a frame from another, and a transmission from a third, and so on down to the last rivet. The maker of the engine, the mill in which the frames are pressed, the transmission man, all derive their separate profits, leaving no other way to the assemblers to obtain their rewards than by skimping the quality of their "product."

AND THEY DO IT—THEY MUST! When you examine some of these astounding cars you will be truly astounded on finding that the four-cylinder engine is cast in one piece and has only two main bearings, whereas the Maxwell has four cylinders and five main bearings. You know well enough that making a motor with only two bearings is equal to leaving the engine to its own devices as far as alignment is concerned.

IT WILL BE A TOUGH JOB FOR THE DEALER to convince the purchaser who is wise that some four-cylinder engines of small dimensions will develop as high as 30 horsepower—because they can't.

MAXWELLS ARE A HOME-GROWN AMERICAN PRODUCT. The use of Maxwell features in Maxwell cars was neither a heaven-given inspiration nor the aping of foreign design, but the outcome of sound engineering sense.

WHEN 10,116 MAXWELL OWNERS testify to the excellence of their cars, all of which have been sold by Maxwell dealers, then the Maxwell proposition is one that you can't afford to pass by.

BEFORE HITCHING YOUR WAGON TO A STAR it will be wise for you to find out all about a dealership for Maxwells, the success of which is past and present, instead of lying in the dark and distant future that has swallowed so many wonderful cars that have been marvelous chiefly in their complete and rapid disappearance from the field of legitimate competition.

Benj. Briscoe
President.

MAXWELL-BRISCOE MOTOR CO.

Standard Manufacturers A. M. C. M. A.

P. O. Box 106, Tarrytown, N. Y.

Factories: TARRYTOWN, N. Y. NEWCASTLE, IND. PAWTUCKET, R. I.

Address communications to Tarrytown, N. Y.

Perfection in part will produce perfection in the whole



"Firestone"

TIRES

"The Tires of Sterling Quality"

are constructed on this principle.

Ever keeping in mind the sole aim—the raising of the standard of pneumatic tires—we employ the most expert tire builders in the various courses of construction.

Each expert forwards his product on the basis of the best that he can do—he has already made his record—he cannot go back of that—he must do as much better as he can.

All the perfected parts are assembled with method and deliberation—making the per-tedfectwhole—the best tire made.

Branches and Agencies Almost Everywhere.

FIRESTONE TIRE & RUBBER CO.

Akron, Ohio

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on a midwinter trip from New York to New Orleans, Mr. Ralph Owen driving an **Oldsmobile,** found in plenty, incidents and conditions of the sort that showed the kind of stuff men and things are made of.

When you stop to consider what an automobile is built and intended for, the endurance of this car is marvelous. He says:

"Between Blue Stores and Hudson the road was particularly rough and rutty, and as we were nearing Hudson one of our rear tires was wrenched off in a frozen rut which was nearly eight inches deep. At Buffalo, a thorough examination of the car was made to see if the terrible strain under which it had been the last three days had in any way decreased its efficiency, but aside from a broken spark plug, which had given us some annoyance the last ten miles into Buffalo, nothing was discovered."

This Car was equipped with **TIMKEN ROLLER BEARINGS AND AXLES**

Has it ever occurred to you WHY the manufacturers invariably equip the cars they pick for such trips, with **Timken Product?** There is a reason. May we give it to you?

THE TIMKEN ROLLER BEARING AXLE COMPANY, Canton, Ohio

Branches: 10 E. 31st Street, New York. 429 Wabash Avenue, Chicago.

BOSCH



"No Ignition Trouble Whatever"

says Geo. Schuster, Driver of the winning Thomas Flyer, in the New York to Paris Race.

New York, Aug. 20th, 1908.

BOSCH MAGNETO CO., New York City.

Gentlemen: The performance of the Bosch Magneto was just as remarkable as the performance of our Thomas car. At times when it was necessary to ford streams, and water was thrown over the top of the bonnet of our car, I was sure we'd have magneto difficulties. On the contrary, we had no trouble during the entire trip. Perfect Ignition all the way from New York to Paris. The Bosch Magneto is perfect.

Yours truly GEO. SCHUSTER.

BOSCH MAGNETO COMPANY, 160 W. 56th Street, New York

Chicago Branch, 1253 Michigan Avenue.

Warner Auto-Meter

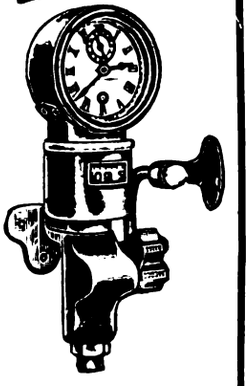
GUARANTEED FOR ONE YEAR.

"Thirty Days' Free Trial"

When a manufacturer is willing to send his product to anyone, anywhere, for 30 days—with no deposit, no agreement to buy, no promise to do anything except give that product a fair trial—he must have more than ordinary confidence in his article.

In order for him to have that confidence he must have a most extraordinary product.

That's what we do. We'll send an Auto-Meter to any automobile owner in the country—with no deposit, no agreement, no promise to do anything but put it on his car and give it a fair trial. It doesn't matter whether he has another make of speed indicator already on the car or not. Indeed, for the sake of comparison, we hope he has. We will abide by the decision—for he will always keep the indicator that tells the truth. We claim for the Auto-Meter that it is the only one of which "the dial never lies." We believe that the instrument itself is the most eloquent salesman we have—we're willing to let it do our talking. Send to-day—just tell us what make and model of car you have—size of tires, etc.,—and we will send you an Auto-Meter.



Is Right

Stays Right

Accurate At All Speeds

Warner Instrument Co.,

Factory and Main Office,

255 Wheeler Ave., Beloit, Wis.

Address your request for Free Trial to Our Nearest Branch House.

New York, 1902 Broadway; Boston, 925 Boylston St.; **Philidelphia,** corner Broad and Race; Pittsburg, 3432 Forbes St.; **Cleveland, 2062** Euclid Ave.; Buffalo, 732 Main St.; Detroit, 239 **Jefferson Ave.;** Chicago, 1305 Michigan Ave.; Indianapolis, 330-1-3 N. **Illinois St.;** St. Louis, 3823 Olive St.; San Francisco, 550 **Golden Gate Ave.;** Los Angeles, 1040 S. Main St.

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Standard Detachable Rim

Resolution passed by the NATIONAL ASSOCIATION AUTOMOBILE MANUFACTURERS at a meeting held in New York, August 5th, 1908.

"Whereas, the Standard Universal Rim, described in the report of "the Special Rim Committee, has been recommended by the committee "as mechanically satisfactory, be it

"RESOLVED that this association hereby adopts the rim so de- "scribed as standard, subject to the consummation by the Special Rim "Committee of satisfactory commercial arrangements with the patentee "and manufacturers."

At the above meeting all the detachable rims now on the market as well as proposed new rims were carefully considered.

THIS IS THE RIM



Standard Rim as Used for Clincher Tires



Standard Rim as Used for Dunlop Tires

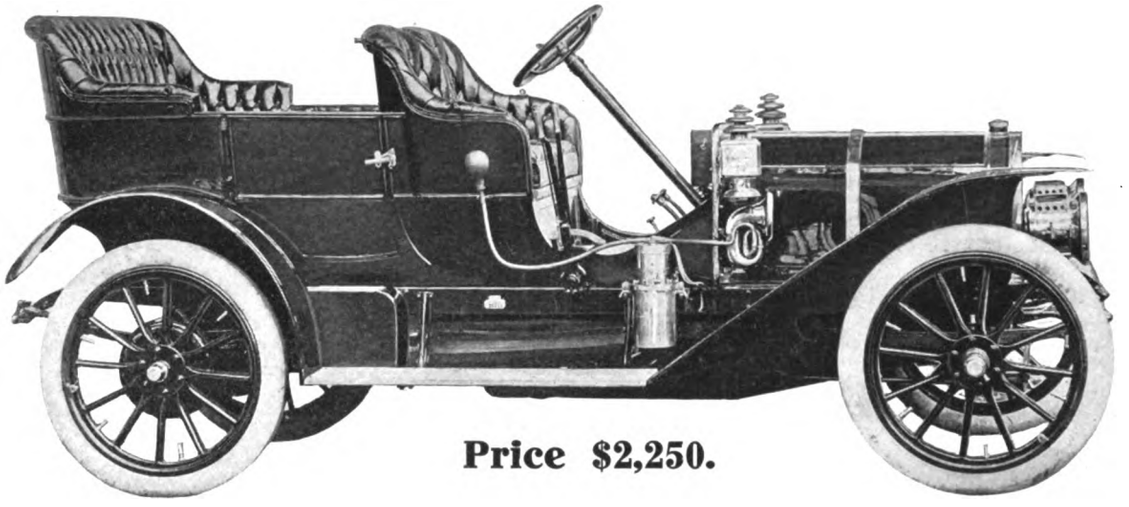
Hartford Rubber Works Co.
Hartford, Conn.

Morgan & Wright
Detroit, Mich.

G & J Tire Co.
Indianapolis, Ind.

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Rambler



Price $2,250.

THE ADVANTAGES OF THE OFFSET CRANK SHAFT

Here is a simple explanation of the offset crank shaft, the great power developing feature of the Rambler.

Notice a man about to mount a bicycle. He always adjusts the pedal in that position where it will receive to best advantage his full weight on the first downward stroke. The best position for the pedal is just slightly forward of the center of the crank shaft on the bicycle. If he mounted when the pedal was directly over the center of the crank shaft, his weight would fall directly on the bearings and the first downward stroke would be retarded and, therefore, weak.

Now imagine the man's leg as the piston of an automobile engine; the pedal of the bicycle as the crank pin and the crank shaft of the bicycle as the crank shaft of the engine. In the ordinary engine the crank pin and piston (the pedal and the man's leg) are directly over the dead center and until the crank passes the turning point all effort is wasted. Thus, when the explosion occurs, the greatest force falls upon the bearings.

In the Rambler engine at the instant the explosion occurs above the piston the crank pin has moved past the dead center; the crank shaft is in a position to receive the full pressure and turns without friction. Consequently there is no side thrust of the piston and wear on the cylinder walls is thus saved.

Try this Rambler on the hills and notice how steadily and powerfully it pulls when running under load.

Tell our nearest representative to call at your home and take you to your place of business in a Rambler.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco.

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, September 10, 1908. No. 24

FULL SETTLEMENT NOW IN SIGHT

Two Weeks Further Allowed for Pope Reorganization, now Certain—Court Delays Order for Third Dividend.

In the Chancery Court at Newark, N. J., on Tuesday last, 8th inst., Vice-Chancellor Howell continued for two weeks an order directing parties in interest to show cause why the receivers for the Pope Mfg. Co. should not be compelled to pay a third dividend of 25 per cent. to the holders of approved claims.

It was represented to the court by Percy S. Bryant, counsel for the creditors' committee, that the receivers have on deposit in various banks cash in excess of $800,000, and that $379,000 would suffice for the payment of the dividends.

The application was opposed by Sherrerd Depue, representing the receivers. Mr. Depue read a communication from George A. Yule, who was appointed one of three receivers at the instance of the creditors' committee, in which Mr. Yule stated that he was not in favor of granting the application at present. Mr. Depue stated further that the time limit for the adoption of a proposed reorganization plan expired on Tuesday and he urged that the outcome of that proposition should be awaited. The plan, he said, provided for the payment in full of all claims immediately upon its adoption. It is understood that a sufficient number of shares has been deposited with the stockholders' committee to assure the success of the reorganization plan as outlined.

The vice-chancellor disposed of the application by saying that he thought he ought to give the reorganization scheme a chance and to that end he continued the application to September 22.

Half Million Dollar Fire in Boston.

Fire from an unknown cause destroyed all but the second floor of the big Taylor-Palmer garage, at 169-171 Huntington avenue, Boston, on Sunday last, 6th inst. Seven employes were in the building at the time the fire was discovered eating its way from the basement to the first boor, and they had time to remove only two cars from the building before the kames gained headway. Between 50 and 60 cars were destroyed, a majority of them belonging to Boston people who are away for the summer. The loss is estimated at about $500,000.

Court Authorizes Pope-Waverly Sale.

As soon as the Indiana court has had an opportunity to give its approval, of which approval there is practically no doubt, the sale of the Pope-Waverly plant in Indianapolis will be consummated by the receivers of the Pope Motor Car Co. to the interests represented by Herbert H. Rice and Wilbur C. Johnson. The chancery court of New Jersey, under the laws of which state the Pope company is incorporated, gave its authority for the sale when the receivers' petition was considered on Tuesday last, 8th inst., and the matter now passes to the Indiana courts within whose actual jurisdiction the factory is located. Messrs. Rice and Johnson, who are connected with the management of the Pope-Waverly business, offered $200,000 for the entire assets, less the cash in bank, and it is this bid that will be accepted. The cash in bank on June 30th last, which will be excepted by the terms of the sale, amounted to $106,420.71.

Muncie Sees Big Factory Coming.

According to press despatches from Muncie, Ind., as soon as title to the site can be obtained, "the construction of a large automobile factory to employ several hundred persons will be started immediately." The factory, it is stated, will be financed by Thomas F. Hart and Madison Maring, Muncie capitalists, and outside interests, "who have practically obtained all the patents for the manufacture of a well known car and who will turn out a machine almost identical with one that has been a success on the market for several years"—name not mentioned.

TO SUE OLDS AND BUICK

A. L. A. M. Makes Sensational Moves—Takes Action to Collect Olds's and Buick's Arrears and to Cancel the Olds License—No Space in Show for Either Concern.

Although surface appearances indicated that little if anything outside of the usual routine was transacted at the meeting of the board of managers of the Association of Licensed Automobile Manufacturers at their New York offices on Thursday last, 3d inst., it has leaked out that sensational action was taken affecting two of the prominent members of the organization, viz.: the Olds Motor Works, of Lansing, and the Buick Motor Co., of Jackson, Mich.

It seems that both of these companies were among the number that withheld payment of the Selden royalty pending the adjustment of the demand for a reduction of the royalty fee, which reduction was authorized by the courts in June last, and which was made apply to the two quarterly settlements then overdue. According to the best information obtainable, Olds and Buick have not only not made those payments, but have neglected or refused to make settlements for the succeeding quarter. All efforts to amicably obtain the amounts due for the period of nine months having failed the A. L. A. M. last week agreed that the time for temporizing having past, stern action was necessary.

To that end, a resolution was unanimously adopted which requests the Electric Vehicle Co., as the owner of the Selden patent, to institute legal proceedings for the collection of both the Olds and the Buick accounts and also in the case of the Olds Motor Works to have it show cause why its license under the Selden patent should not be revoked and cancelled. For some unknown reason, no effort will be made to nullify the Buick license, at least, not at

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this time. Additional significance is added to the situation by the fact that in the allotment of space at the forthcoming Madison Square Garden show, which was made last week, Olds and Buick were passed over and did not share in the apportionment.

This action on the part of the A. L. A. M. is certain to create a furore. None outside of its innermost circles even suspected that anything of the sort was in contemplation, at any rate, not so far as the Olds interests are concerned. The Olds Motor Works was one of the original members of the association and has always stood high in its councils and played an active and conspicuous part in its affairs, F. L. Smith, general manager of the Olds company, having been at one time president of the A. L. A. M. According to one story, the Olds people were opposed to the grant of a license which recently was issued and assumed their present attitude as evidence of their displeasure. The Buick Motor Co., on the other hand, never has been active in the association's affairs and rarely has been represented at its meetings despite the fact that it has profited enormously from its membership. It has been one of the few Selden licensees making a low priced car and because of the exclusive agency policy that obtains in the licensed organization, the Buick company, almost without effort, has been able to secure agents and place its goods in a great number of desirable places.

W. C. Durant, general manager of the Buick company, was among those present at last Thursday's meeting at which this radical action was determined, but the Olds interests were not represented. At the same meeting of the A. L. A. M., a step also was taken to open wider the door of the association and to disprove reports that the bars are up against additions to the membership. The step took the form of a resolution, passed without a dissenting voice, which made it the sense of the meeting that applications of other manufacturers who measure up to the A. L. A. M. standard be considered.

Those in attendance at the meeting were as follows: Autocar Co., Marcus L. Brock; Buick Motor Co., W. C. Durant; Cadillac Motor Car Co., W. C. Leland; Corbin Motor Vehicle Corp., M. S. Hart; Chalmers-Detroit Motor Co., R. D. Chapin; Electric Vehicle Co., H. W. Nickolls; Elmore Mfg. Co., J. H. Becker; H. H. Franklin Mfg. Co., G. H. Stillwell; Hewitt Motor Co., E. R. Hewitt, R. C. Gildersleeve; Locomobile Co. of America, S. T. Davis, Jr., A. W. Robinson; Lozier Motor Co., H. A. Lozier, Jr.; Matheson Motor Car Co., C. W. Matheson; Northern Motor Car Co., V. M. Gunderson; Packard Motor Car Co., H. B. Joy, M. J. Budlong; Peerless Motor Car Co., L. H. Kittredge; George N. Pierce Co., Chas. Clifton; Pope Mfg. Co., C. E. Walker; Pope Motor Car Co., George Pope; Royal Motor Car Co., E. D. Shurmer; Selden Motor Vehicle Co., R. H. Salmons; F. B. Stearns Co., F. B. Stearns; Stevens-Duryea Co., C. C. Hildebrand; Studebaker Automobile Co., W. E. Metzger; E. R. Thomas Motor Co., E. R. Thomas; Waltham Mfg. Co., E. S. Church, O. G. Bechtel; Winton Motor Carriage Co., Thomas Henderson; and E. P. Chalfant, assistant general manager A. L. A. M.

The Week's Incorporations.

Louisville, Ky.—Miles Auto Co., The, under Kentucky laws, with $10,000 capital. Corporators—Leon L. Miles, William H. Curtis, Sr., and Ada B. Harris.

Dover, Del.—International Auto Cab Co., under Delaware laws, with $500,000 capital. Corporators—F. P. Jones, F. W. Mills, E. J. Forham, New York City, N. Y.

Chattanooga, Tenn.—Burk Auto Co., The, under Tennessee iaws, with $10,000 capital. Corporators—Anton Pyron, Thomas W. Fritts, Sidney B. Elmore, Albert Rodgers and W. W. Burk.

Denver, Col.—Denver Auto Service Co., under Colorado laws, with $100,000 capital. Corporators—J. Wesley Smith, Rodney J. Bardwell, W. V. Elliott, R. C. Hecox and C. H. Smith.

Indianapolis, Ind.—Southern Indiana Automobile Co., under Indiana laws, with $30,000 capital. Corporators—Harley Jackson, William P. Masters, Fred Everback, Isaac Elbert and Clark B. Davis.

New York City, N. Y.—Precision Tool & Instrument Co., under New York laws, with $100,000 capital; to manufacture engines, machinery, motors, tools, etc. Corporators—J. A. Straussman, E. M. Munn, New York City, N. Y.; J. F. Brown, Brooklyn, N. Y.

In the Retail World.

The Milford Auto Machine Co., Milford, Mass., is about to remodel and enlarge its present premises; the addition will be 40x30 feet.

Fire last week completely destroyed Edward C. Truncer's garage at 77 Virginia place, Buffalo, N. Y. Ten automobiles were wrecked, the total loss being more than $25,000.

The Elmore Motor Co., of Los Angeles, has begun the erection of its new garage at 742 South Olive street. Its dimensions will be 80x167, and it will contain all modern improvements.

J. F. Ollinger has purchased an interest in the Center Motor Car Co., Salina, Kan. His entry has carried with it a change in the name of the concern to the Ollinger-Center Motor Car Company.

T. G. Patterson and Dr. William Marseilles have rented a disused candy factory on North Washington street, Clinton, Mo., and will remodel and use it as a garage. The first named will have active charge of the business.

The Smith-Clemens-Hopping Garage, at Dayton, Ohio, has removed to the Majestic rink building, that city. There has been no change in the personnel of the company as has been reported, and it will continue to handle the same line of cars next season, namely, Thomas, Chalmers-Detroit, Cartercar and Columbus.

George S. Hill, the directing head of the Hill Garage, at Haverhill, Mass., has withdrawn, and Elmer C. Bassett, of Boston, assumes the position of manager; Bassett has secured a controlling interest in the plant and business.

The automobile, bicycle and sporting goods department of House & Herrmann, Wheeling, W. Va., has been purchased outright by Wesley T. House. The new owner has managed this department of the business since it was started.

The Denver Automobile Service Co. has been incorporated in the Colorado city of that name to do a general automobile business. J. Wesley Smith, Rodney J. Bardwell, Willis V. Elliott, Roy C. Hecox and Charles H. Smith are the corporators.

Willis, Haywood & Holcomb is the name of a new company that has opened in Indianapolis. The garage at 330 North Illinois street, formerly occupied by the Fisher Automobile Co., has been remodeled, for the exploitation of Packard cars.

H. J. Donohue, a retired merchant of Sumner county, Kan., now located at 351 North Topeka avenue, Wichita, has decided to enter the business arena again. This time it will be automobiles instead of dry goods, and the Lambert is the car he has decided to represent.

A short circuit of electric light wires causing an explosion of gasolene was responsible for the burning of the garage of Ball & Staolers at Devils Lake, N. D., on August 27th. Twenty cars were saved but the loss to machinery and building amounted to $15,000, on which there was no insurance. The garage was one of the largest in North Dakota.

The Ellis Motor Car Co., Newark, N. J., has moved into its new building, 124-126 Washington street, where it will continue to handle the Pierce-Arrow cars. The building, erected expressly for the company, is about 50 feet wide, 100 deep, two stories high in front, and is of fireproof construction. The ground floor is used as a salesroom and garage. The repair shop and storeroom occupy the second story.

The Apthorpe Motor Car Co, is the style of a new concern which has taken possession of the new fireproof garage at 214-216 West Eightieth street, New York. In addition to doing a general garage and repair business, the agency for a line of high-grade cars will be taken on. Fred S. Dickinson is the active man in the company which he states will make a specialty of paying real attention to its patrons' cars instead of paying commissions to chauffeurs.

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JULY ANOTHER MONTH OF DECLINE

Export Figures Show a Continued Decrease with Gains in Only Four Countries—The Showing for Seven Months.

No upward tendency in the export of American motor cars and parts came about during the month of July, the total for the month being $643,901 as against $796,325 for the corresponding month in 1907. The returns, of course, brought no improvement for the record of the year so far, and the total for the seven months ending with July was $3,613,941 as against $4,245,490 for the same period last year.

Declines for the month are shown in all but four of the fourteen divisions in which exportations are grouped, the increases being one from $21,992 to $54,555 in "Other Europe", a gain from $1,585 to $5,497 in British East Indies, an advance from $5,731 to $11,247 in Other Asia and Oceania, and an increase from 183,508 to $191,927 in British North America. The more notable declines are those of France, Germany, Italy and Mexico. The exports to France dropped from $121,627 to $53,602 for the month, Germany from $47,720 to $22,744. Mexico from $49,113 to $11,726, and Italy from $14,161 to zero. The loss in the case of the United Kingdom, the biggest customer on the list, was more limited in proportion being a decrease from $301,126 to $273,396.

The seven months' record shows a total gain in the case of the United Kingdom, the figures for 1907 and 1908, respectively, being $1,335,170 and $1,365,561. France, too, despite the July showing, records a gain for the seven months, from $482,868 to $510,758. The trade with Other Asia and Oceania, which showed a July gain, has almost doubled during the first part of this year, with an increase from $45,828 to $88,273. The division known as "Other Countries" also records a seven months' gain, from $7,005 to $18,235.

The record in detail is as follows:

	July		Seven Months Ending July		
	1907	1908	1906	1907	1908
Automobiles, and parts of	.....	.....	$2,356,110	.....	.....
Automobiles	$727,391	$588,560	$485,672	$3,825,969	$3,223,166
Parts of	68,934	55,341	27,507	419,521	390,775
Exported to—					
United Kingdom	301,126	273,396	829,913	1,335,170	1,365,561
France	121,627	53,602	256,036	482,868	510,758
Germany	47,720	22,744	100,106	144,843	123,531
Italy	14,161	.....	233,872	241,100	219,136
Other Europe	21,992	54,555	163,975	233,234	164,554
British North America	183,508	191,927	506,133	900,386	692,836
Mexico	49,113	11,726	381,367	452,611	187,034
West Indies and Bermuda	10,028	5,885	189,282	153,350	105,523
South America	31,821	7,003	72,316	128,490	79,850
British East Indies	1,585	5,497	21,317	19,724	17,560
British Australasia	3,560	4,362	76,833	94,855	37,734
Other Asia and Oceania	5,731	11,247	24,436	45,828	88,273
Africa	3,735	1,930	9,622	6,026	3,356
Other countries	618	27	4,081	7,005	18,235
Total automobiles and parts of	$796,325	$643,901	$2,869,289	$4,245,490	$3,613,941

Engineers to Meet in Cleveland.

Cleveland has been selected as the place for the third quarterly meeting of the Society of Automobile Engineers, on September 18 and 19 next. The Hollenden House will be the headquarters and the program as already outlined will devote considerable time to visiting automobile plants located in Cleveland. The entire morning of the first day will be given over to this, followed by a lunch to be arranged for by the local committee. The afternoon and evening will be devoted to the business meeting and the reading of papers. On the second day a train will be taken to Akron for a visit to the Diamond and other tire plants in that city. The visiting members will be guests of the Diamond Rubber company at a lunch to be given at the Akron County Club. Afterward the Society will go to Canton, where they will visit the plant of the Timken Roller Bearing Axle Co., and the members will be guests of the latter company until their departure from Canton in the evening.

Pittsburg Dealers' Association Election.

At its annual meeting on Thursday last, 3d inst., the Automobile Dealers' Association of Pittsburg elected the following officers: W. H. Murray, president; A. L. Banker, vice-president; Charles F. McLaughlin, secretary; U. P. Moore, treasurer. The Diamond Automobile Co., the Maxwell-Briscoe Pittsburg Co., and the White Co. were added to the membership.

Franklin Adds New Factory Building.

The H. H. Franklin Mfg. Co., are just taking possession of the latest addition to their factory. It is a concrete fire-proof building 97 by 62 feet, five stories high. This building will permit of a greater production of both commercial vehicles and motor cabs.

Building a Factory in Galesburg.

Work on the construction of an automobile factory in Galesburg, Ill., for E. H. Ovelhort is reported as having commenced last week. The building will be of concrete, 60 by 100 feet.

AGAIN THE SPRING WHEEL APPEARS

Latest of the Family Arises in Far Off Arizona—$3,000,000 Company to Make It Go Around.

If the plans of H. O. Jackson and G. F. Randall do not go awry, the poor old pneumatic tire which has endured so many years will have a lot of air let out of it. Its old familiar enemy, the spring wheel, is giving it another poke, so to speak. Messrs Jackson and Randall are the exploiters of the very latest of the large family of spring wheels, the first of which appeared when the bicycle was young and tender.

The two gentlemen, with Jackson as president, and Randall as secretary-treasurer, have formed a $3,000,000 company and incorporated it away out in Arizona, where the Grand Canyon is located. Quite a bunch of the three millions in shares is for sale and if any one desires any of it he has but to speak up and produce the coin.

The first news of the big flotation came not from far off Arizona, but from the little town of Batavia, in Illinois. Mr. Randall appeared there last week in a solid tired automobile equipped with his spiral spring wheels, and "showed" the natives how he could drive over tacks and broken glass and bounce up and down. It tickled their fancy so well that it is stated that the Batavians purchased some $5,000 worth of the Arizona paper.

Lausen Changes Name; Will Produce Cars.

The C. P. & J. Lausen Co., which has been making gasolene engines at 841-847 Thirtieth street, Milwaukee, has increased its capital stock from $75,000 to $150,000, and will henceforth be known as the Christenson Engineering Co. The present plant will be enlarged to provide facilities for the manufacture of complete cars.

Continental Adds New Flat Tread Tire.

The Continental Caoutchouc Co. this week announced the addition of a new tire to its line, the A. C. Flat Tread as it is styled. It has a corrugated surface and will be sold at round tread prices and with a 3,500 miles guarantee. It is particularly designed for use on heavy, low powered cars.

Marvel May Locate in Elkhart.

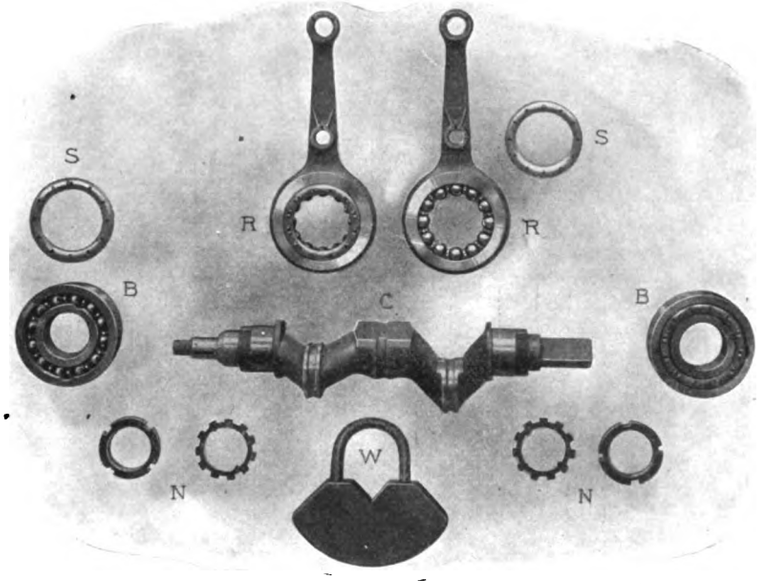
The Marvel Automobile Co., of Detroit, is reported negotiating for a disused factory building in Elkhart, Ind. J. C. Forster, president of the concern, was in Elkhart last week looking over the ground.

Stewart & Clark to Open in New York.

The Stewart & Clark Mfg. Co., of Chicago, manufacturers of the Stewart speedometer, are making ready to establish a branch in New York. It will open soon.

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The Simplicity of
THE WHITE STEAM CAR



In the principles of construction—as in the method of operation—the White Steam Car is simpler than any other type of automobile. Consider, for example, the design of the White crank-shaft and compare it with the corresponding member in other cars. In the above illustration is shown the crank-shaft of the 1909 White engine and all the parts attached thereto. The crank-shaft, C, is a short one-piece forging of tool steel with but two main bearings, B,B. These bearings may be removed by taking off the lock nuts and lock washers, N,N. The two connecting rods R,R, are one-piece forgings fitted with ball bearings, as shown. With the addition of the counter weight, W, the crank-shaft is complete.

In all accepted types of gasoline engines there are from three to seven main bearings. As is well known, when any shaft has more than two bearings, there is the ever-present danger that they will work out of alignment. Moreover, the crankshaft of the gasoline engine has either four or six connecting rod bearings, which are invariably only plain bearings instead of ball bearings. It will thus be seen that there are only from one-half to one-third of the number of parts used in connection with the White crank-shaft as are used in connection with the crank-shaft of a gasoline engine.

Next week we shall compare the two valves of the White engine with the eight or twelve valves of the gasoline engine.

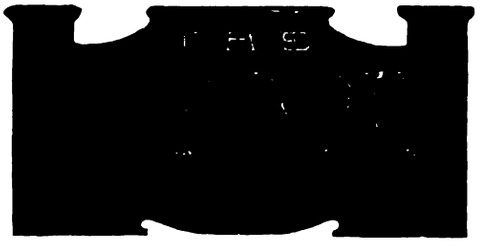
Write for circular containg details of the new White cars.

THE WHITE COMPANY

CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.
PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.
SAN FRANCISCO, 1460 Market St.
ATLANTA, 120-122 Marietta St.

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No Cause for Compromise or Controversy.

During the past week, the air and the New York newspapers have been charged with reports that a compromise was in sight in the A. A. A.-A. C. A. controversy. These reports, which significantly enough came chiefly from those who manufactured the controversy, stated that the manufacturers had taken a hand in the matter and likely would force a settlement; and undoubtedly several manufacturers did seek to pour oil on the troubled water, but without effect. The lack of results is not surprising; for it is difficult to discern what there is to compromise.

Shorn of the elements of personal greed and personal grudges, which are at the bottom of the whole affair, it is not easy to see wherein the American Automobile Association has anything to arbitrate. It has not made war on any person or any organization. It simply stands for America and American institutions, of which the Vanderbilt cup race is one. On the other hand, the so-called Automobile Club of America, which stands for Europe and European institutions, has made war on the Vanderbilt race. It has promoted a counter event for no other purpose than to injure America's classic race. The American manufacturers, almost as a unit, had declared that they wanted no additions to the list of these big, expensive sporting projects, but their wishes had no weight with the Automobile Club. Its position has been assumed almost wholly to maintain its own repute abroad and to becloud the fact that its attitude and its antagonism toward the A. A. A. grew out of the petulancy of several of its wealthy and more or less important members who, unable longer to dictate to and domineer all the other clubs in New York State, were unwilling to submit to the will of the majority—a truth which the club rightfully is anxious to put as far as possible behind it.

The issues, if such they may be called, are, therefore, very clear and very simple. Individually, the manufacturers, not a few of whom do not even know "what it all is about," hesitate to "take sides," that is, actively, although collectively their national association has placed them on record as supporting the American Automobile Association, than which no other stand is conceivable. But as a matter of calm fact, the American automobile manufacturers owe little, if anything, to the misnamed Automobile Club of America. Its present attitude is in keeping with its past history. It was pro-foreign from its inception. It is pro-foreign to-day. It is American chiefly in name and in membership. It is less than a year ago that one of its former presidents, addressing the American manufacturers, whose guest he was at the time, patronizingly told them that when their cars were as good as those produced abroad, possibly more of them would be used by the members of his club. It was a remark that is a fair index of the policy that rules the club and has ruled it from its beginning.

If, say, such an organization as the Automobile Importers Association of New York, or of America, engineered such a spite race as the A. C. A. is engineering and on the same alleged grounds, to maintain its reputation abroad, also some foreign rules, no American manufacturer would hesitate a moment in giving proof of where he stands. There is not more occasion for hesitancy on the present occasion. If the Vanderbilt cup race is not a signal success, the foreign nations will hug themselves for joy. Its failure or partial success will be their victory. American manufacturers will do well to take this fact close to their hearts.

The Automobile Club of America is just as much of a local body as the Automobile Club of Cohoes. Its dominion extends no further, at least, in this country. By grace of its good friends in Europe, it is able to say that its disqualifications will be respected abroad. But how many Americans have raced abroad or expect to race abroad?

The only real issue is whether, in the interests of Europe, the Automobile Club of America shall be permitted to injure a genuinely American institution and whether American manufacturers will stand aside and see the injury done. As for controversy or cause for compromise, there is none. The A. C. A. is a local club of less than 2,000 members. The A. A. A. is a national organization with 20,000 members. A local club and a national association of whatever nature can have no quarrel over the right of national government.

Importance of the Country Markets.

Like the question of what becomes of all the needles and pins, it is sometimes difficult for any one having a realization of the enormous motor car production in the United States at the present time to conjecture where all the cars go to. The increase of cars in the larger cities, while noticeable, is not sufficient to account for more than a very small part of the total production. The exports of American automobiles, although reaching very respectable figures, likewise answer for a comparatively modest proportion of the output. If, then, the larger cities and the export markets absorb only a minority of the machines, it follows that the small towns and the country must take the balance. And such is actually the case, the small town and country trade at present forming the largest and steadiest market that the makers have.

Some makers there are who concentrate their selling efforts chiefly on the large cities, and the nature of their product is such as to necessitate this policy more or less, since their cars are of a style and price that makes their purchase in small towns quite unlikely. Other manufacturers have paid special attention to the rich field offered by the small towns and the country districts and have left the large

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cities pretty well alone. As a result their metropolitan fame is nil, but their sales are in many instances many times larger than surface indications would suggest.

Many causes contribute to make the small town a good market for cars. The fairly prosperous resident of a small town has more reasons for the purchase of a car than the city dweller of equal income, and the housing and maintenance of a machine is cheaper for him than it is for his urban brother. The latter is generally well provided with transit facilities between his home and his place of business, and to indulge in the luxury of an automobile means the paying of high city rentals for garage space and altitudinous prices for service and supplies. The activities of a small town resident, on the other hand, are generally so distributed over a fairly wide topographical area as to make the purchase of a car a wise and judicious business investment for purely transportation purposes, quite aside from the pleasure features. No high rentals attach to such ground as he may use for a private garage, while if he entrusts his machine to a local garage concern, the latter is able to make a much better rate than a city establishment. Such excursions as the city automobile owner makes to the outlying districts are generally for pleasure purposes, with no utilitarian justification, but the owner in a small community has frequent occasion to drive to the city on business as well as pleasure. The main element of difference between the two classes, therefore, is that to the city man the automobile is an adventitious luxury to be employed during his leisure hours and to be paid for at a stiff figure for garaging and supplies, while to the resident of the small community a car is a practical aid in his daily affairs, providing him with better transportation than horses afford and giving him ready access to the city when necessary, all at a cost that makes motoring attractive.

The heavy buying of the Middle West, which has during the past year been one of the strongest factors in the trade, is not accounted for by the big cities. The careful cultivation of the small towns by sales organizations designed with that end in view, was what accomplished such remarkable results. In New England, while the sales are credited chiefly to the city agencies, the bulk of the orders have come from the small towns, all within such easy access of the cities, however, as to permit the city agencies to handle the business. The Southwest presents examples of towns so insignificant in size and population as to be mere flyspecks on county maps, which nevertheless have motor car salesrooms and garages enough to make impressive "automobile rows." These establishments find their support in the demand for cars for cross country traveling.

From the low priced buggy type vehicles up to the latest six cylinder machines, the small towns are, as a whole, outstripping the big cities in the volume of their purchases, only drawing the line at some of the highly refined, ornate and expensive limousine body creations which cannot be sold except in the cities, owing to the limited call for electric lights, satin wall tufting, and folding bridge sets and escritoires. The wise manufacturer and the wise sales manager will not overlook the true nature of the sales situation simply through a desire to shine in the big cities.

Salesmen for motor goods, especially the wholesale men visiting the trade, must needs be well equipped with a mass of information and prices that would make the ordinary citizen dizzy. Many of them carry elaborate price books for ready reference, but others, through long practice are able to quote entirely from the head. There is a great demand among the wholesale supply houses for men who are capable of selling this class of goods, since the business requires quite a range of technical information and real selling ability, as well.

As an instance of how carefully salesmen in this line look after their customers, one of the most successful travelers has recently developed a scheme which has swelled his order list quite a little. In a specially ruled memorandum book he keeps a record of the purchases of each of his customers for the year, and before going to see a customer, a few minutes study of the book discloses just what he has bought in the past. After the latter has given orders for everything he thinks he needs, the salesman calls his attention to the fact that in the past he has at about this time put in a stock of this or that, and gives him a list to investigate as to how his stock stands.

It is nearly always the case that the salesman thus is able to point out deficiencies in the dealer's stock that the latter would quite have overlooked had not the salesman kept track of the course of his purchases through the year.

COMING EVENTS

September 7-12, Hartford, Conn.—Connecticut State Fair Association's outdoor show and grand circuit races at Charter Oak Park.

September 11-12, Brighton Beach, L. I.—Motor Racing Association's 24 hours race, Brighton track.

September 11, Springfield, Mass.—Springfield Automobile Club's hill climb on Wilbraham hill.

September 12, Louisville, Ky.—Louisville Automobile Club's race meet at Churchill Downs.

September 14, Chicago, Ill.—Chicago Motor Club's annual economy run.

September 16-17, Long Island—New York Automobile Trade Association's mechanical efficiency test, New York to Montauk Point and return.

September 23-24, New York City.—Dust trials, smokeless exhaust and brake tests, under auspices of New York Automobile Trade Association, Central Park.

September 20, San Francisco, Cal.—Olympic Athletic Club's race meet at Tanforan Park.

September 20-30—Kansas City Automobile Club's endurance run, Kansas City, Mo., to Oklahoma City, Okla., and return.

September 23-24, Boston, Mass.—Bay State Automobile Association's 24 hours endurance run, Boston to Bretton Woods, N. H.

October 6-9, Chicago, Ill.—Chicago Motor Club's 1,000 miles reliability run.

October 7, Philadelphia, Pa.—Quaker City Motor Club's 200 miles road race, Fairmount Park.

October 10, Long Island—Elimination trials for Vanderbilt cup contest.

October 17, Hartford, Conn.—Automobile Club of Hartford's hill climb, Avon Mountain.

October 24, Long Island.—Vanderbilt cup contest.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles outlaw race for foreign cars.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show in Madison Square Garden.

January 23-30, Philadelphia, Pa.—Philadelphia Automobile Trade Association's annual show.

February 6-13, Chicago, Ill.—National Association of Automobile Manufacturers' show, Coliseum.

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STRANG RUNS AWAY AT LOWDLL

Struggle in 254 Miles Road Race is All for Second Place, Strang Leading by 92 Minutes—One Contestant Disqualified—Big Attendance.

In one of the greatest runaway road races ever held, Lewis Putnam Strang, on Monday last, 7th inst., won the Lowell Automobile Club's 254 miles road race over the Merrimac Valley course at Lowell, Mass. Strang covered the distance in 4 hours 42 minutes 35 seconds, an average speed of 53. miles an hour, and finished 1 hour 32 minutes 23 seconds ahead of his nearest competitor—H. F. Grant, in a six-cylinder American Locomotive car.

Strang drove the same Italian made Isotta-Fraschini car which he piloted to victory in the Savannah and the Briarcliff races and the remarkable feature has been Strang's luck with tires. In none of these events has he stopped once on account of tire trouble; and this fact enabled him to draw out a big lead in the race last Monday, while the other competitors were having their troubles with punctures. Strang also had the glory of making the fastest lap of 10.6 miles in the race, covering the sixth lap in 10:53.

William Bourque, in a Knox car, was third in 6:33:29, and George Robertson, Fiat, was fourth in 6:38:31. There were seven starters, but these four were the only ones to finish. Robert Burman in a Buick was making a good fight for second place, when he was disqualified after completing the 21st lap, because he had employed outside help in putting a new radiator and one or two other things on his car.

Of the remaining two starters, Frank Lescault, in a Simplex, was slipping into second place when he had cylinder trouble and withdrew in the 20th round. Charles Basle, in the second Knox car, had trouble early in the game. The bearings of the connecting rod burned out and could not be replaced. The French driver of the American car was tagged out in the 8th lap.

While the race was not the greatest contest that has been held in America, it was, however, an interesting struggle, but most



LEWIS P. STRANG

of this interest was confined to the fight for second place. Very early in the race Strang secured the lead and after that he was never headed, streaking around in the lead every time. The fight for second place, on the other hand, was exciting, as it was not until the last lap that it was assured for Grant.

Possibly it was this fact that kept the big crowd from surging on the course after the first car finished. In the Vanderbilt, the Briarcliff and other races it has been impossible to hold the crowd in check after



LEO ANDERSON, STRANG'S MECHANICIAN

the first two or three cars have finished, and at the Lowell race, where the winner finished from one and a half to two hours ahead of the field, it is bordering on the marvelous that the combined policing and interest of the spectators in the struggle for second place was sufficient to allow the race to finish as races should. In this respect the contest at Lowell was notable.

Another feature well worth mentioning is the fact that the start of last Monday's race did not have any of the flavor of starts of Vanderbilts proper and elimination, Savannah, Briarcliff and other events. In all these the starts have been made at the unearthly hour of sometime between the beginning of daybreak and thrifty farmers' breakfast time—a time when well regulated people are taking their beauty naps. At Lowell the spectators had a chance to get this woodburysnooze plus breakfast and then be on time to watch the cars and drivers make their getaway.

The stage setting of the Lowell affair was like those of other important road events. The thrifty New England farmers were even thriftier than the Long Island and Westchester county tillers of the soil in erecting grandstands, transforming hay fields into parking places, and selling hot coffee and sandwiches in return for the large amount of loose change that always sprinkles plentifully around the scene of a big event of any kind. The Lowell race had not only its "hairpin curve," which was not so very terrible after all, but it also had a "dip of death." This was nothing more than a slight uphill and down again piece of road which would scarcely be honored with the name "hill" in Westchester county, New York. And, as frequently happens on "dips of death" and "hairpin curves," killings persistently refused to happen. In fact, exclusive of tire trouble and a few minor engine mishaps there was not a thriller of any kind, except a few incidents that caused the grandstand crowds at the starting and finishing line to sit up and take notice.

There were only a few occasions when cars came down the stretch in close proximity and therefore the race was not a pronounced success from the spectacular point of view. Once the Fiat and the Simplex came tearing along within a few yards of each other, making a pretty race, and toward the late afternoon the three cars left in the race after Strang had finished, fol-

SUMMARY OF THE RACE BY LAPS.

Driver.	Machine.	1	2	3	4	5	6	7	8	9	10	11
1 Lewis Strang	Isotta-Fraschini	0:11:42	0:25:25	0:34:25	0:46:28	0:59:06	1:09:59	1:21:48	1:33:28	1:44:45	1:56:35	2:08:09
2 H. F. Grant	Am. Loco	0:36:25	0:48:15	1:02:08	1:35:40	1:47:24	1:58:55	2:19:30	2:31:00	2:42:44	2:54:21	3:06:16
3 Wm. Bourque	Knox	0:14:06	0:26:20	0:41:28	0:53:41	1:40:40	1:52:54	2:05:17	2:18:04	2:30:35	2:42:59	2:55:24
4 Geo. Robertson	Fiat	0:11:43	0:23:45	1:08:22	1:59:56	2:12:05	2:23:50	2:36:02	2:47:12	2:59:63	3:10:01	3:22:34
Frank Lescault	Simplex	1:12:21	0:24:30	0:36:50	0:48:50	1:01:06	1:13:18	1:25:53	1:40:55	1:52:56	2:04:56	2:16:54
Robert Burman	Buick	0:13:33	0:25:26	0:38:40	0:50:32	1:02:21	1:15:49	1:27:27	1:39:07	1:50:44	2:02:32	2:14:17
Chas. Basle	Knox	0:27:57	0:45:18	1:06:21	1:29:28	1:41:19	1:53:11	2:04:51	Withdrawn			

	12	13	14	15	16	17	18	19	20	21	22	23	24
1 Lewis Strang	2:20:22	2:31:46	2:44:12	2:56:06	3:07:58	3:19:37	3:31:16	3:42:43	3:57:05	4:05:50	4:17:35	4:30:49	4:42:35
2 H. F. Grant	3:18:05	3:40:45	3:52:59	4:09:18	4:28:04	4:40:44	4:53:25	5:03:49	5:18:44	5:30:31	5:42:57	5:56:11	6:14:58
3 Wm. Bourque	3:07:48	3:26:35	3:43:45	4:10:41	4:23:50	4:37:12	4:50:15	5:10:38	5:23:28	5:36:54	5:57:07	6:16:46	6:33:29
4 Geo. Robertson	3:37:10	3:48:57	3:52:55	4:06:01	4:28:25	5:00:57	5:15:50	5:29:19	5:43:10	5:52:48	6:09:57	6:20:57	6:38:31
Frank Lescault	2:28:58	2:48:17	3:04:08	3:16:11	3:28:11	3:40:19	3:57:57	4:06:00	Withdrawn				
Robert Burman	2:26:53	Disqualified											
Chas. Basle													

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lowed at distances of something like a few hundred yards apart. At another time Strang and Burman gave the people at the hairpin turn a scare as the two cars came whirling along with Strang almost on top of the other. The road liners fell back and Burman's mechanic looked anxious, but Strang laughed and the instant he had the room to pass, scurried by in a cloud of dust.

An unusual incident occurred at the grandstand when Grant in the American Locomotive car came whirling along at the finish of one lap. The left front tire rolled off and indulged in an impromptu race. Grant had power in his car while the tire had only impetus to carry it along and it lost out, while Grant continued some miles before he put on another tire.

The day was ideal for the race. Thousands of people poured into Lowell the night before and all the hotels did more business than at any other time in the history of the manufacturing city. In the morning the throng was augmented by the thousands that came out from Boston and other nearby cities while touring parties made the region of the 10 miles circuit their objective point.

Despite the presence of a variably estimated crowd of from 70,000 to 150,000, there was no sign of congestion anywhere. The people scattered themselves around the course rather evenly, so that the work of the police and officials was considerably lightened. The grandstand was fairly well filled and a section of the official and press stand, which was reserved for members of the Massachusetts legislature, for, be it known, that it had required a special act of the legislature to make the race possible, also was well filled. A lot of men who never again will be mistaken for senators and representatives, were in this coop.

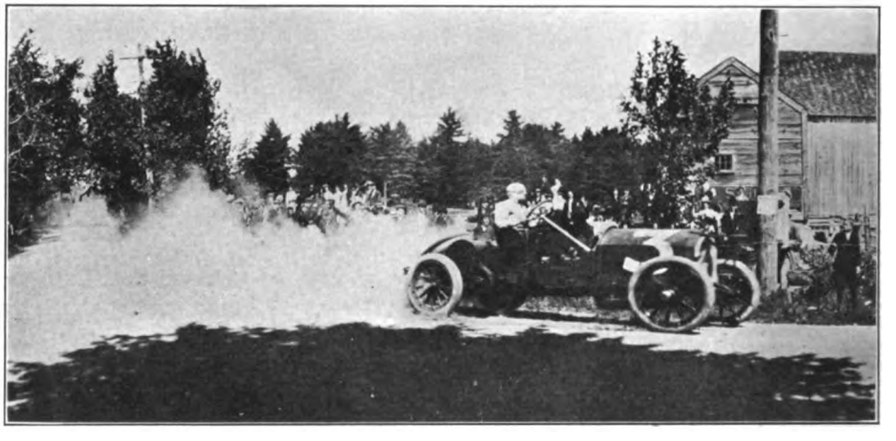
The course was in splendid condition, although a few more barrels of oil would not have been wasted. It was laid out in the beautiful Merrimac Valley over 10½ miles of good road, the finishing stretch being over the broad, level Pawtucket boulevard. From the starting point it went around through Tygnsboro and over Varnum avenue to Dunbar street, thence turning into the boulevard. Varnum avenue, or the back stretch, was somewhat rough, but even so, the drivers agreed that it was smoother than the best parts of the Briarcliff course.

The danger points of the course were supposed to be the "hairpin curve" at the Tyngsboro end, and the "dip of death," but at these points nothing of interest occurred. The Varnum avenue turn into Dunbar avenue was treated with as much respect by the drivers as any other point.

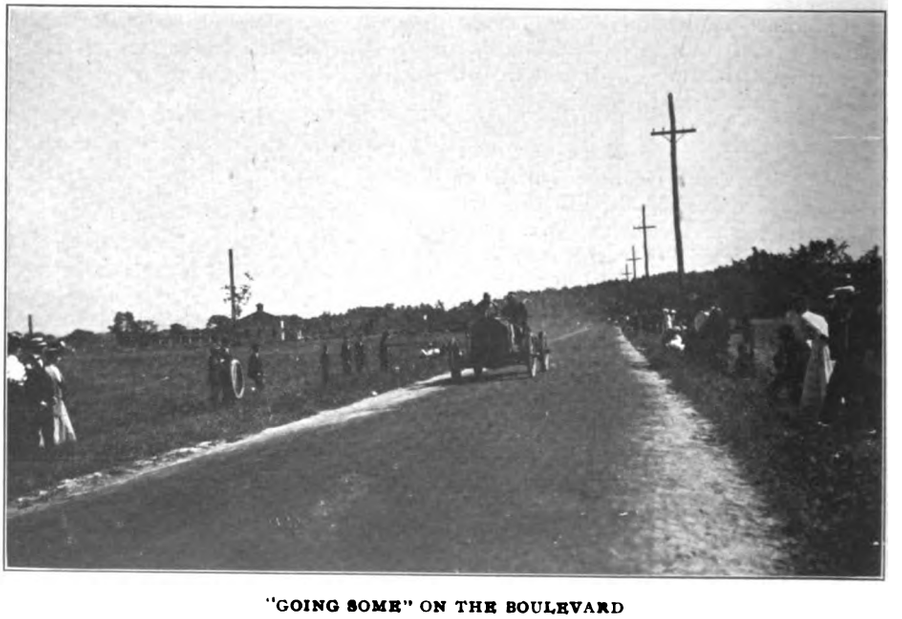
The policing was excellent. Captain Gardner W. Pearson had at his disposal the four militia companies of Lowell recruited to war strength largely by former members, and one company from Lawrence, Mass. These were in addition to



TYPICAL VIEW OF THE START—LESCAULT STARTING



STRANG TAKING ONE OF THE BAD TURNS



"GOING SOME" ON THE BOULEVARD

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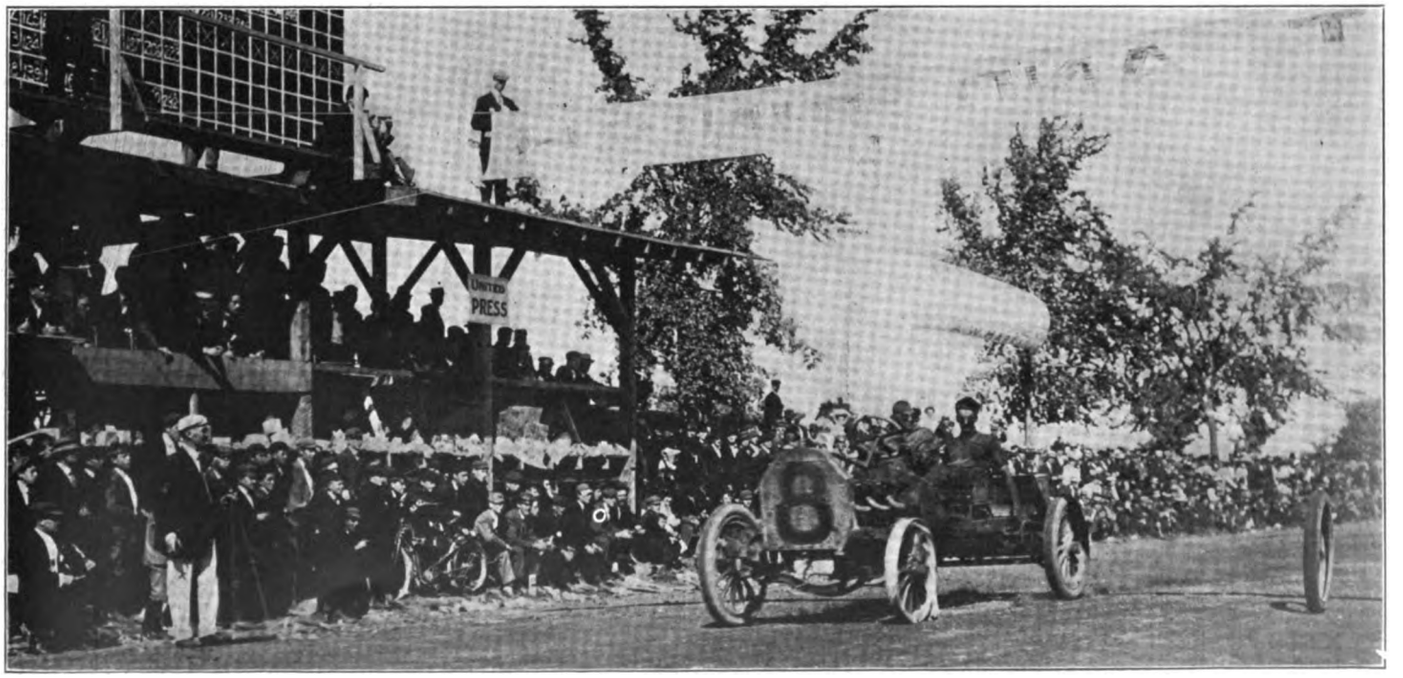
VIEW OF THE "DIP OF DEATH"

the large force of regular police under command of Superintendent Moffat.

The usual suppressed excitement was manifest at the start when the seven racing cars took their places a few minutes before 10 o'clock, the scheduled time for departure. There were to have been eight cars in line, but Al Poole, the driver of the other Isotta-Fraschini, had eliminated himself a few days before when he ran off the course, upset his car and broke his collarbone. The race started almost to the minute. Lescault, in the Simplex, was the first away, and then Robertson moved up to the line and awaited the count of 60 seconds. "Ten seconds" shouted the starter, then a pause and the last count: "Five, four, three, two, one, Go!" and Robertson was soon lost to view. Strang was third away and he got the biggest cheer of all—his boyish face drew sympathy from the feminine contingent. Burman followed Strang, and then Bourque, followed by Basle. The biggest car of all, the six-cylinder American Locomotive, with Grant at the wheel, was the last to start, and the slowest, but once under way it ate up ground amazingly.

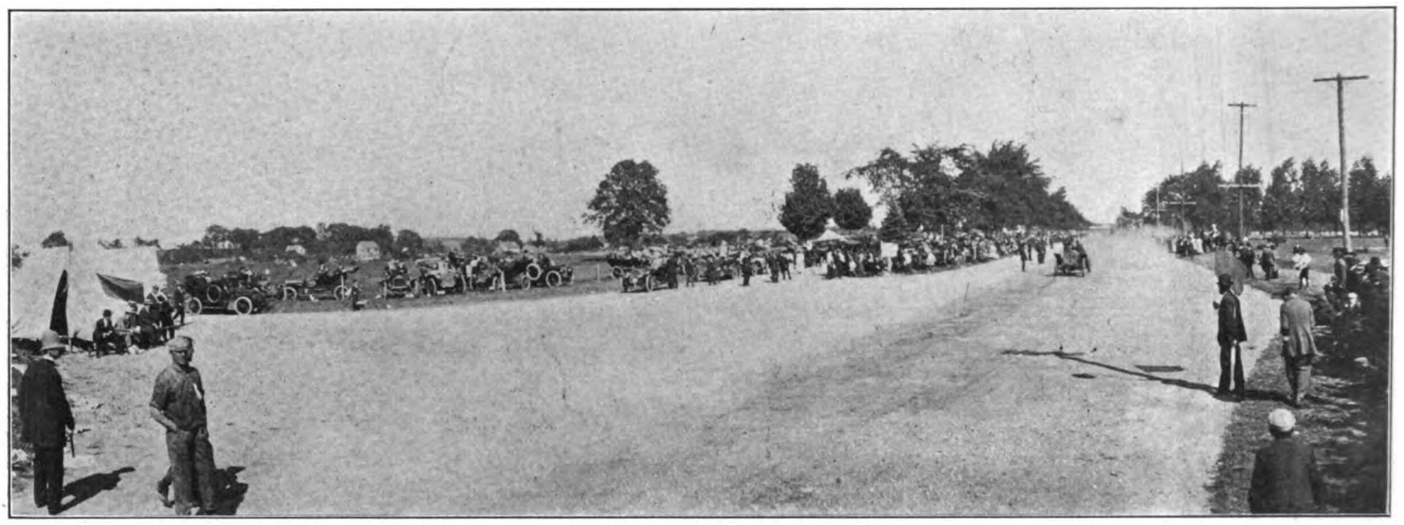
Less than three minutes after Grant got the word the crowd was on its feet as Lescault was announced as coming down the stretch, simultaneously with the news that Strang was overhauling Robertson, not a quarter of a mile apart. As Lescault rushed by the stands he raised his hand and got a cheer. Within 45 seconds Robertson, in the Fiat, was checked. Then came a bright red car emerging from the dust. It was Strang and his Italian car, and there was a rumbling as he shot by faster than either of his predecessors. Lescault's time for the first lap, 10.6 miles, was 12:21, while Robertson did it in 11:43, Strang in 11:42, and Burman, who followed, in 13:33. Basle, in one of the Knoxes, and Grant in the American Locomotive, both had tire trouble in the first round and were lapped by Strang, Robertson, Lescault, Burnam and Bourque.

Then the race began to present its changes and cars were shifting here and there. Strang did not attempt to do any fancy driving at the hairpin curve and so he did not have any trouble on account of tires. Others came limping around on three tires, Grant passing on the rim three times. There were not very many changes in the early rounds. Robertson and Lescault changed places, the former going into second place in the first round and dropping to last on the fourth, while Lescault poked



GRANT RACES WITH ONE OF HIS OWN TIRES

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LOOKING DOWN THE BOULEVARD TOWARD THE GRANDSTAND

into second place. Burnam drove consistently and worked up into third place, and before the race was one-third over he had shoved Lescault out of second place.

From the 8th to the 12th lap there was no change in positions, the order at the halfway point being Strang, Burman, Lescault, Bourque, Grant and Robertson, their respective times for the distance of 127 miles being 2:20:22, 2:26:53, 2:28:58, 3:07:48, 3:18:05 and 3:37:10. There had been no tidings of Basle after the 7th round, so it was presumed he had withdrawn.

There were six cars left in the race at the halfway mark and Ribertson then began some pretty driving, after having plenty of tire trouble. He worked up from last place to fourth, passing Grant. When Burnam came around in the Buick at the finish of the 13th lap the spectators noticed that it looked different from when it had started. The number on the radiator was missing and the name of the car appeared in its stead. E. Rand Hollander, representing the Fiat interests, protested to the referee that the car had been supplied with a new radiator and a new axle, outside help being employed for the change, and therefore it should be disqualified. Some time later the technical committee got hold of the car and after examining it officially disqualified it. The car kept running until the end of the 21st lap, but it was disqualified from the time the change was made in the 12th lap.

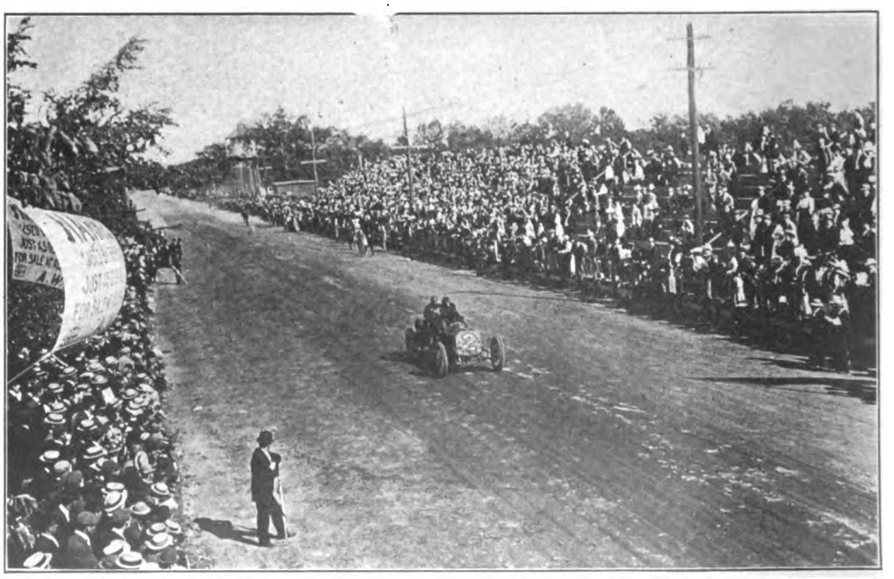
At 11:30 o'clock Strang had completed two-thirds of the distance and was then more than an hour ahead of the field. It was easily seen then that barring accidents he would win in a walk. Strang slackened his pace somewhat in the closing laps, but not to any great extent. His driving was most consistent throughout the time for each lap being as follows: 11:42, 11:43, 11:00, 12:00, 12:41, 10:53, 11:49, 11:40, 11:17, 11:50, 11:30, 12:17, 11:24, 12:26, 11:54, 11:52, 11:39, 11:39, 11:27, 11:22, 11:45, 11:43, 13:16, 11:45.

At 2:30 o'clock Strang was two laps ahead of the field with only three rounds to be covered. Bourque was then in second place with Grant third. While Grant was on his 15th lap he slipped the left front tire after an exciting brush with Bourque, whom he passed. The tire rolled off the rim and then raced alongside the car some distance as previously described and as shown in one of the accompanying pictures. Various officials tried to stop it, but failed, and a policeman was not quite brave enough to get in front. It finally hurdled over the back of a boy who was stooping and then fell on its side. Grant continued and replaced the missing tire at the next tire station. Bourque passed Grant and led for the next few laps, but his cylinders began to miss and Grant forged into second position and kept there until the finish.

It was not quite 3 o'clock when Strang came bowling down the stretch on his last lap. He had driven such a beautiful race that the grandstand crowds rose to their feet and cheered as he flashed past. Although Strang beat out the field by more than an hour and a half the finish between the remaining three was close. Bourque finished 19 minutes after Grant and Robertson less than five minutes after Bourque. Lescault retired after the 19th round, when cylinder trouble developed. He had made good time up to that point.

Strang's victory—the third big race in one year—puts him in a class by himself, the equal of any foreign driver. Nazzarro is the only other man who won three road races in one year.

The feature of Strang's successful driving has been his most excellent good fortune with tires. He did not stop once on account of tire trouble, in either the Savannah or Briarcliff races, and he had the same experience in the Lowell race. He used the same brand of tires in the three events—namely, Michelins.



VIEW OF THE CROWDS LINING THE COURSE

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DE PALMA DOES MILE IN 51 SECONDS

He Slashes World's Record at St. Paul and Then Defeats Christie—Four Real Contenders in 10 Miles Event.

The standing world's record of 52 seconds for a mile circular track was wiped from the slate on Saturday last, 5th inst., when Ralph De Palma, a Brooklyn young man, circled the fair grounds track at St. Paul, Minn., in 51 seconds flat, breaking by one even second the time made on the same track by Walter Christie a year ago. De Palma only took up automobile racing a few months ago, after having been kept out of all sports by a term of suspension meted out by the Federation of American Motorcyclists. It took him nearly four years to obtain reinstatement.

De Palma's great feat was accomplished at the joint meet of the St. Paul and Minneapolis automobile clubs, and, naturally, it was the big feature of the afternoon. Walter Christie, the former holder of the record, made two trials, one before and one after that of De Palma, but in neither instance did Christie equal his own figures set up a year ago.

Christie was the first to go for the record and when he finally appeared on the track the several thousand spectators yelled themselves hoarse. With his odd front drive racer Christie tore down the home stretch for the start. He shut off power to make the first turn, but picked up quickly on the back stretch and reached the half mile pole at 26½ seconds. The New Yorker again shut off for the turn into the stretch, but came down the last few hundred yards like a rocket. He missed his own record of 52 seconds by a fraction of a second, however.

And then came the big event of the day. De Palma drove up to the judges' stand smiling and confident and slowed to tell them not to take his time until he raised his hand. He went up the backstretch like a streak and as he flew down the homestretch his right arm shot in the air—the signal that he was ready to start. Opened wide, the Fiat Cyclone lived up to its name as it flashed over the tape and around the first turn in a cloud of dust. De Palma, who is a dare- devil of the first order, didn't slow a bit on the turn as Christie had done, but came out of the dust into the backstretch traveling faster than ever. The last turn was a repetition of the first, and the big car nosed its way into the final stretch and flew down it within two feet of the pole. De Palma made a beautiful turn and the crowd jumped to its feet in appreciation. In less time than it takes to tell, De Palma had crossed the tape and the timers consulted the watches. There was an expectant hush and then the announcement:

"Fifty-one seconds flat!"

Then Bedlam broke loose. By the time De Palma circled the track and drew up to the stand a crowd of enthusiasts had pushed through the guards and were waiting to congratulate the young driver for his splendid drive. De Palma took it calmly and coolly, but he was smiling, nevertheless. The car with which the record breaking feat was accomplished was equipped with Continental tires.

When it was announced that De Palma had broken the record Christie came up to the official stand and asked for another trial. He claimed that in the first trial his radiator had leaked. De Palma thought Christie would not have wanted another trial, if he had not broken the record, but the New Yorker was allowed to go out again. His driving did not improve, however, and the best he could do was 52¼ seconds.

The next event of importance was the match between Christie and De Palma, in three mile heats, best two in three. It was evident that Christie was nervous because after DePalma had lined up at the tape for the start, Christie said he would have to fix his car before he was ready. Just as the judges were about to award the match to De Palma by default Christie came up. De Palma drove in the same superb style that he displayed in the time trial, and he beat Christie to the first turn. De Palma ate up the distance amazingly and when he crossed the tape for the first mile his opponent was just coming into the stretch. In the next two miles Christie gained, but De Palma was never in danger of being overtaken, and did not push his car to the limit.

In the second heat the same tactics were followed, De Palma sticking to the pole while Christie swung wide on the turns. De Palma gained a substantial lead in the first half mile, which Christie reduced at the tape, but in the second mile the Brooklyn young man put a gap of daylight between himself and the New York driver which lead was increased in the last mile. De Palma finished in a cloud of dust in 3:01⅘ for the three miles.

In the five miles race for stock chassis several surprises developed. There were four starters and Stewart Elliott, in an American, set the pace for four miles, with Littlewood, in a Stearns, second. Elliott looked the winner when he had trouble and stopped, leaving Littlewood in the lead. Zengle, Pennsylvania, was third, and Stickney, Chalmers-Detroit, fourth, before Elliott withdrew, but the latter made a surprising gain and nosed Zengle out for second place.

The same four drivers later went in a 10 miles match, Elliott and Stickney giving the crowd its money's worth by alternating in the lead for several miles. Littlewood stopped in the second mile to make a slight adjustment, but reappeared and put up a cracking good race. The steady driving of Zengle in the Pennsylvania told, however, and slowly, but surely, he pulled up front and won the race, with Stickney, in the Chalmers-Detroit, second.

The five miles for stock chassis under $1,250, went to Fred Harn, driving a Mason car, in 6:13. Two motorcycle events created considerable interest. Fred S. Haas, on an Indian, won the 10 miles handicap in 13:49, and Lacy Crolius, Harley-Davidson, took the five miles open in 5:15. The summaries:

Ten miles handicap for motorcycles—Won by Fred Haas, Indian; second, Thomas Bird, Merkel; third, R. S. Porter, Indian. Time, 13:49.

Five miles open, for stock chassis—Won by J. C. Littlewood, Stearns; second, J. Stickney, Chalmers-Detroit; third, Leonard Zengle, Pennsylvania. Time, 7:51.

Five miles open, for stock chassis under $1,250—Won by Fred Harn, Mason; second, Charles Nyquist, Buick. Time, 6:13.

Ten miles match—Won by Leonard Zengle, Pennsylvania; second, Stickney, Chalmers-Detroit. Time, 12:40. Also ran—Elliott (American) and Littlewood (Stearns).

Five miles open for motorcycles—Won by Lacy Crolius (Harley-Davidson); second, C. W. Van Sickle (Indian). Time, 5:15.

Three miles match between Ralph De Palma, Fiat, and Walter Christie, Christie—First heat won by De Palma. Time, 3:14. Second heat and match won by De Palma. Time, 3:01⅘.

One mile time trials—Won by Ralph De Palma (Fiat). Time, 0:51 (world's record). Second, Walter Christie (Christie). Times, 0:51¼ and 0:51½.

"Century" Premier Completes Its Centuries.

On Tuesday, September 8, the Premier Century car, which started out June 1st to cover 100 miles for 100 days, completed its one hundredth journey with Joseph Moore at the wheel, and is now resting peacefully in Chicago. The car is said to be little the worse for the wear and tear and slamming it went through on its trip of more than 12,000 miles, and the performance is notable inasmuch as no parts were broken or repairs made necessary, which prevented it from doing its daily century, rain or shine. During the Glidden tour this car, which carried a load of newspaper correspondents each day, was given a most severe test, to say nothing of the other 10,000 miles that it plunged through all sorts of good, bad and worse roads, and once again the familiar phrase about American cars having "reached the high plane of perfection that renders them capable of withstanding any amount of hard usage within reason"—et cetera, is emplified.

It is the intention of President H. O. Smith, to have some western automobile club appoint a technical committee to inspect the car and make a report upon its condition when it is dissembled.

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Size.	Regular Round Tread Casing.	Inner Tube	Tire Complete	Bailey Tread Casing
*28x2½	$11.80	$3.05	$14.85	....
*30x2½	12.70	3.20	15.90	....
28x3	14.05	3.50	17.55	$15.50
30x3	15.05	3.75	18.80	16.50
*32x3	16.10	3.95	20.05	17.55
30x3½	22.20	5.05	27.25	24.15
32x3½	23.55	5.35	28.90	25.60
34x3½	25.70	5.70	31.40	27.70
36x3½	27.80	6.00	33.80	29.80
30x4	30.00	6.15	36.15	32.50
31x4	31.80	6.40	38.20	33.25
32x4	32.25	6.55	38.80	34.75
33x4	33.45	6.70	40.15	35.90
34x4	34.50	6.90	41.40	36.80
36x4	36.75	7.25	44.00	39.15
34x4½	43.75	8.50	52.25	46.70
36x4½	46.35	9.00	55.35	49.30
34x5	53.90	10.05	63.95	57.55
36x5	56.95	10.60	67.55	60.65

NOTE—Sizes marked * not made in Dunlop or Quick Detachable Clincher Tires.

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NEW YORK—10 W Sixtieth St.
CHICAGO—1434 Michigan Ave.
SAN FRANCISCO—414-16 Van Ness Ave.
DETROIT—256 Jefferson Ave.
DENVER, COL.—1541 Cleveland Place.
BUFFALO—912 Main St.
PHILADELPHIA—713 N. Broad St.
LOS ANGELES, CAL.—1010 So. Main
MINNEAPOLIS, MINN.—21 S. Second

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ICES

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HERE'S THE REASON

JUST a year ago this Company sent out the sample sets of its new tire. Drivers, dealers and all who tried them gave one verdict—"the best tire that has been produced to date." New equipment, new methods and tremendous volume of output have in time produced the logical result—a reduction in manufacturing cost. We are simply giving you the full benefit of our new equipment and methods, not only in the better quality of tire but in reduced cost.

MAHA, NEB.—Eleventh and Farnam Sts.
TTSBURG, PA.—830 Liberty Ave.
LANTA, GA.—35 N. Pryor St.
MEMPHIS, TENN.—181 Madison St.
ST. LOUIS, MO.—415 N. Fourth St.
BOSTON—110 Federal St.
PORTLAND, ORE.—326 Burnside St.
KANSAS CITY, MO.—1607 Grande Ave.
CLEVELAND, O.—326 Frankfort Ave., N. W.

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CAN'T CARRY AWAY HIS TROPHY

Harper's Prize for Best Time at Wildwood Too Big to Move—Eight Events Contested and Honors Scattered.

Although he made the fastest time at the Wildwood, N. J., meet on Monday last, 7th inst., D. Walter Harper did not carry the prize he won to his Philadelphia home. Don't think that the prize was held up, or that Harper did not receive it. The reason was that the prize was not exactly such that Harper could tuck it in his vest pocket or carry under his arm. It was a large section of Wildwood real estate designated as a building lot.

This unusual prize was offered to the driver making the fastest time at the meet and Harper carried off the honors—but not the prize—when he sent his steam car over the measured mile stretch of boulevard in 47⅗ seconds. This was some seconds slower than the record made on the course at the Fourth of July meet.

The track was somewhat heavy in the early morning owing to the heavy rains on Sunday, but by rolling and scraping the force of workmen succeeded in getting it in shape before the time set for the races to start. That no accidents to spectators occurred was marvelous. The small handful of police was insufficient to handle the crowd, which surged time and again on the roadway, narrowing the course to a lane.

There were no spectacular features worth recording and the time trials failed to get within speaking distance of the record, either in the mile or the kilometer distances. One of the events that attracted the most interest was what was termed the "Presidential Handicap." This was won by Arthur Hammerstein, a son of the noted impressario. Among the other drivers at the meet were John Wanamaker, Jr., and Senator John J. Coyle, who finished first and second in one of the touring car events. Hammerstein was third in this event. The summaries:

Special for Matheson cars—Won by William Haupt; second, Frank Yerger; third, Louis Taubel. Time, 1:22.

Free-for-all—Won by D. Walter Harper, Stanley; second, Joseph W. Parkin, Jr., Parkin; third, William Sharp, Sharp-Arrow; fourth, Thomas Wilkinson, Packard; fifth, Frank Yerger, Studebaker; sixth, Arthur Hammerstein, Mercedes. Time, 0:55⅗.

Gasolene cars—Won by William Sharp, Sharp-Arrow; second, J. W. Parkin, Parkin; third, Frank Yerger, Studebaker; fourth, Arthur Hammerstein, Mercedes. Time, 1:04⅗.

Steam cars only—Won by Frank Dorrell, Stanley; second, H. Clayton; third, William Lipmann. Time, 1:25⅗.

Special event for gasolene cars—Won by John Wanamaker, Jr., Packard; second, Senator John J. Coyle, Pierce-Arrow; third, Arthur Hammerstein, Peerless. Time, 1:03⅗.

Mile time trials—Won by D. Walter Harper, Stanley; second, William Sharp, Sharp-Arrow; third, J. W. Parkin, Parkin; fourth, Thomas Wilkinson, Packard; fifth, Frank Yerger, Studebaker; sixth, Arthur Hammerstein, Mercedes. Times, 0:47⅗, 0:51⅕, 0:51⅗, 0:57⅗, 1:05⅗ and 1:06⅗.

Free-for all handicap—Won by Arthur Hammerstein, Mercedes (0:19); second, J. W. Parkin, Parkin (0:04); third, D. Walter Harper, Stanley (scratch). Time, 1:18.

Kilometre time trials—Won by D. Walter Harper, Stanley; second, J. W. Parkin, Parkin; third, Arthur Hammerstein, Mercedes; fourth, Frank Yerger, Studebaker. Times, 0:27, 0:30, 0:41 and 0:41⅕.

Poughkeepsie Programs a Race Meet.

Having recuperated to some extent from his recent automobile accident, in which he knocked down a telegraph pole, Fred J. Wagner, whom the city of Baltimore dubbed "America's greatest starter," will manage a race meet at Poughkeepsie, N. Y., on October 2. A sanction has been granted by the A. A. A. and a program has been mapped out, which is designed to give cars of all prices a chance to win. The entry fee for each event is $10.

The following is the card for the meet: Five miles; open to gasolene cars selling under $1,250. Five miles; open to gasolene stock cars, selling $2,001 t oand including $3,000. Five miles; open to gasolene stock chassis, selling $4,001 and over. Free for all, best two out of three heats; not more that two cars to compete in a heat. Open to gasolene stock chassis cars of 40-1 to 60 horsepower, inclusive. Five miles; Dutchess County handicap, open to gasolene stock cars. Ten miles; gasolene stock chassis cars, 40-1 to 60 horsepower, inclusive.

New Route for Kansas City Run.

Small flint stones which abound in the Flint hills between Winfield and Joplin, Kan., have frightened the Kansas City Motor Club's pathfinding party to such a degree that the proposed route to Oklahoma City, Okla., will be abandoned in part. It was found imperative to change the route when the Studebaker car, which is mapping the itinerary, encountered such a band of tire devils between Joplin and Wichita that Elliott Jones, the driver, and the passengers were well nigh exhausted from changing tubes. For leagues the road is naught but a cattle trail, filled with large and small flint rocks and they claim that 25 miles of going on it is enough to ruin any set of tires. Accordingly the pathfinders traced a new route on a map, running through the towns of Augusta, Eldorado, Eureka, Osawatomie and Paola, returning to Kansas City via Platte and Martin. This route, it is believed, will be a thoroughly possible one for the proposed endurance contest.

TRACY TRIES OUT MOTOR PARKWAY

First Trials on Completed Portions of the New Course—Quarter Mile Officially Timed at 10⅘ Seconds.

As a first attempt to discover the speed possibilities of the new Long Island Motor Parkway, over a portion of which the Vanderbilt Cup contest will be run, Joe Tracy, in the 1906 Vanderbilt cup Locomobile "tried it out" on Friday last and did some tall traveling. According to the watches of the official timers, C. J. Dieges and H. O. Von Schuckman, of the Timers' Club, Tracy covered a quarter mile in 10⅘ seconds, which is at a rate of nearly 90 miles an hour. On a three miles stretch of road, Tracy made four trials with the old car, which is still in healthy condition, but found it difficult to get up the right momentum and shut down again in such a short distance, particularly when he had to work up most of his speed on a curve.

The first half-mile trial was done in 23 seconds and the second in 24, which demonstrated clearly that the course was capable of permitting fast going.. The car was then sent whizzing over a quarter mile stretch, and the watches showed 11 seconds. Thereupon Tracy made a final effort and beat this mark by one-fifth of a second, some watches catching him at 10 seconds flat.

The builders of the Parkway promise that 11 miles of the road will be completed in time for the cup race; eight miles is now in condition, but in disjointed sections.

Nazzarro Captures the Florio Cup.

Felice Nazarro, driving a Fiat car, won the annual Florio cup race at Bologna, Italy, on Sunday last, 6th inst. Nazarro covered the course of 528 kilometers (327.6 miles) in 4 hours 25 minutes 21 seconds, his average speed being 74.271 miles per hour.

The race this year did not attract as representative a list of entries as the ones preceding it. There were six Italian and eleven French cars in the race and of this number six finished in the following order:

1, Nazzaro, Fiat, 4:25:21; 2, Irucco, De Dietrich, 4:34:07; 3, Cagno, Itala, 4:56:12; 4, Demogeot, Mors, 4:57:11; 5, Lancia, Fiat, 5:08:51; 6, Garcet, Bayard-Clement, 5:22:07.

Bar Harbor Bars Automobile Forever.

Bar Harbor, Me., is going to bar motor cars from entering its borders, permanently and for all time. The exile of the automobile was decisively voted upon at a meeting of the Village Improvement Association on Tuesday, September 8, and the latter agreed to sympathize and co-operate with the Land Owners' Association, which is making an effort to shut out motor cars from the entire island of Mt. Desert.

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WHY A. A. A.-A. C. A. "WARFARE"

Inside History of Personal Grievances and Personal Dislikes Responsible for "Sandbagging" of the A. A. A.— A. C. A.'s Untenable Position.

"To a limited extent, the so-called 'war' between the American Automobile Association and the misnamed Automobile Club of America, reminds me of the 'war' between the Brotherhood of Baseball Players and the established National Baseball League, which was waged so bitterly," remarked a New Yorker who is familiar with the automobile racing situation. "Men with itching palms and disgruntled newspaper reporters who were not wholly free from the itch, were at the bottom of the baseball warfare, just as they are at the bottom of the present automobile disturbance. With a very few notable exceptions, the New York baseball reporters and sporting editors took up the cudgels of the 'brotherhood' and misrepresented and generally 'sandbagged' the national league in a manner horrible to behold. The few reporters—I now can recall but one—who gave the league a square deal or who said a word in its favor practically were boycotted or ostracized by their former associates. The result of that long and selfish fight is a matter of history. The clubs in both organizations were brought to the verge of bankruptcy, the public became disgusted with the sport and remained away from the games, and peace was declared not a moment too soon. When the smoke cleared away only one organization remained—the national league. It still remains. while the 'strikers' or 'outlaws,' that is, the so-called brotherhood, is but an obscure memory.

"Something of the same sort occurred in the earlier days of the League of American Wheelmen, but at that time the reporter press agent was not so well developed as now, but the 'war' served to show how self-interest is behind practically all of these sore head movements. On the eve of the racing season, the L. A. W. declared to be professionals about every prominent amateur in America, and several from abroad. The howl that went up reached heaven. The race meet promoters and a few big clubs joined hands, formed an association, adopted racing rules and a badge with a diamond in it, and made a very loud noise generally. They ran several big 'outlaw' meets under their own sanction and rules and permitted the professionals to compete as amateurs. The L. A. W. went right on suspending the whole outfit and in less than two years it dried up and blew away, every one connected with it being glad to make peace with the League on any terms. They all then readily admitted that the racing men had been taking money 'on the side,' and that they formed this 'outlaw' association solely to save their pocketbooks, that is, their race meets, which were threatened with ruin.

"Within the last few months we've had another exhibition of the sort of thing on which such 'wars' are based. Two or three shot-putters or high-jumpers, who write sporting stuff for New York newspapers, took a dislike to the man selected to manage the Olympic team. They first fired their pellets at him and when they proved of no effect, they commenced to 'sandbag' the Amateur Athletic Union and its president. They tried to stir up strife between the big clubs, hinted at the formation of a rival for the A. A. U., and kept it up until it became so tiresome that no one but themselves read their writings. They did not succeed in having removed the man who incurred their dislike, whose chief offense apparently was that on a previous occasion he would not permit a much mixed crowd of athletes to do whatever they pleased.

"In the present automobile squabble, the underlying conditions are somewhat similar. The 'auto editors'—as the Motor World not inaptly styled the anti-A. A. A. element—are 'gunning' chiefly for one man, A. G. Batchelder, a member of the A. A. A. racing board, who has cut no conspicuous part in its affairs, but who, in a modest way, and a not discreditable way, has tried to help things along. But 'Batch' is in the newspaper business and while professional jealousy may have something to do with it, the 'boys' are 'against him' for one reason or another and though most of them shake his hand when they meet him, if he could be ousted they would toss 'Dunc' Curry's 'Fair Fame' in a horse blanket for very joy. Most of Batchelder's newspaper 'friends' are also anxious to oust 'Freddy' Elliott, the A. A. A. secretary. His is the only salaried job in the association and though they will deny it strenuously, it is beyond doubting that two or three of the lower priced 'auto editors' view the salary with covetous eyes. The Flattened Tire Club, as they call themselves, seems to think that they and not the A. A. A. clubs should have the naming of the A. A. A. officials. Within the past week or so, one of the 'boys' openly suggested one of his old 'college chums' and fellow Britishers for Elliott's job. They have no particular grievance against Elliott who has treated them decently, and who really is as harmless as a cooing dove and as light as a feather. About his worst offense is parting his hair in the middle and plastering it down on the sides. He also came from out of town and Flattened Tires seem to consider him an interloper, and if they can force out him and Batchelder they'll be as happy as clams at high tide. Elliott has made the mistake of trying to be everybody's friend and as a result he is nobody's griend. Funny thing about Batchelder's and Elliott's enemies, too! Four of the most strenuous ones are transplanted foreigners.

"Several of the 'boys' have personal grievances of their own. For instance, 'Senator' Morgan, who before he became an 'auto editor,' promoted some unusual professional bicycle races. lays at the A. A. A. door the failure of his efforts to bring paying crowds to the large hotels that employed him to run the Ormond speed carnival and the Bretton Woods 'hurrah.' The failure lost Morgan a bundle of percentage money, and his wound apparently never will heal. He grinds out anti-A. A. A. stuff by the ream and spins like a top in doing so. He has discovered more A. A. A. 'mare's nests' than any man alive, and has had considerable to do in the creation of the present disturbance. But even if his head isn't, Morgan's heart is big and in the right place, and though he had selfish ends to serve, it is to his credit that he never forgot the 'boys' when the midwinter junket to Florida was in preparation. Free transportation or free board. or both, for themselves and wives always was provided by Morgan—at the hotels' expense. It made them his friends for at least a part of his life and his fight for r-revenge has become partly theirs. Sam Butler, the secretary of the Automobile Club of America, always was of great use to Morgan's Florida enterprises and Sam always was first on the list of junketers. Last winter when Morgan was so sore at the A. A. A. because of its share in the promotion of the Savannah road race which he claimed would increase the frost on the Florida meet, he saw Butler, and Butler, who, because of the many sorts of large and small and important men with whom his job requires that he contend, long has subsided on cod liver oil and other oleaginous food, adroitly induced the Automobile Club to lend its name to the Florida fizzle. There's where the A. C. A. enters on the racing scene. Bob Morrell, who once was chairman of the A. A. A. racing board, also went to Florida for Morgan. His wad is large enough for him to pay his own way, and Robert, who frankly admits that he loves the limelight, was tickled to death to pose as referee. He has his grievance, too. He considers that the A. A. A. dropped him too unceremoniously. Although he won no medals as an A. A. A. chairman, his pride was hurt; and the same crowd that is now hounding Batchelder, without ever mentioning his name, were the same who a few years ago were saying that but for 'Batch's' help, Morrell would have been lost in the shuffle.

"Morgan is not the only 'auto editor' who has a personal grievance. There are several others who have tried to increase their incomes by dipping into the promotion of road races, track races, hill climbs, and automobile shows and who in doing so have run counter to the A. A. A. rules; in fact, there is no telling when scratching below the surface of such affairs will not disclose one or more of the 'boys' with fingers reaching for the plums in the pie. Tom Moore

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has proved mightily useful to them in making pies of the sort. It is to Tom's credit that though he will organize any sort of an 'association" or event, over night, for anyone who pays his price or whenever he sees a chance to share the spoils, he is not drawin a salary as an 'auto editor.' He's a free lance press agent, and as he knows how to 'take care of the boys,' they treat his projects accordingly. Tom is 'in' on the Automobile Club's press work for its anti-American road race at Savannah. He is openly at work for it and collects his money regularly; and if reports speak truly there are at least three 'auto editors,' who are well paid by their respective newspapers for serving up impartial news who also are on the club's pay roll for $25 per week each; not for 'sandbagging' the A. A. A., or for belittling or injuring the Vanderbilt cup race—perish such thoughts!—but for 'publicity work' in connection with the Savannah races. I don't say that these reports are true, but I do say that the writings of the three men in question make appear that they are earning the $25 per week even if they are not getting it.

"It is this sort of stuff of which the anti-A. A. A. newspaper campaign is made. If you attempt to discuss the subject with the average member of the Automobile Club, he'll throw up his hands and admit that he doesn't know what the rumpus is about. Talk to one of the little handful that is responsible for the present state of affairs and he becomes at once very frank and mysteriously suggestive. He will tell you that the club has no desire to control racing, and without cracking a smile will add that against its will it is being forced to spend $20,000 or $25.000 for the Savannah project. Asked if there is any clause in its compact with the European bodies that forces it to do so, he'll answer 'N-no; but we feel dutybound to do it.' Press him for a statement of the club's ideas and this 'insider' will weave a tale about how the club is willing to enter a federation of clubs for the control of racing, which federation shall govern but which shall not promote events. Then the conversation will follow about this trend, which is close to actual conversation:

"'Does not practically every national organization of whatever sort, conduct its own annual championships or big events akin thereto?'

"'It may be so; but I'm not sufficiently well posted to answer one way or the other.'

"'If such a federation were formed would not the A. C. A., in view of its foreign affiliations, still assert its right to be paramount in dealing with international affairs?'

"'Y-yes; I suppose that's so.'

"'Isn't the American Automobile Association just such a federation as that which you suggest?'

"'I suppose so.'

"'Then why did the Automobile Club withdraw from it?'

"'Oh! you don't know what we had to contend with.'

"'If you had any differences, why didn't you fight them out in the right way—inside the organization?'

"'We stood it as long as we could.'

"'Stood what?'

"At about this stage of the proceedings, the A. C. A. 'insider' commences to twiddle his thumbs and clear his throat, and wanders into a maze of generalities. One of the most specific things they appear to have 'stood' is Judge Hotchkiss, the president of the A. A. A. They'll tell you he is a politician seeking to use the A. A. A. to serve his political ambitions. Then they'll suggestively remark the fact that the A. A. A. is a corporation without capitalization. Ask them if incorporation is not a pretty good safeguard for the members of every organization, they'll admit it and qualify it with a statement that the A. A. A. is a corporation 'without property or personal responsibility.'

"'Is it usual for national organizations to possess much property?'

"'N-no.'

"'Is the Automobile Club of America a corporation?'

"'Yes.'

"It was incorporated to eliminate the element of personal responsibility, wasn't it?'

"'P-possibly.'

"'Don't dodge! It was incorporated for that very purpose and no other—wasn't it?'

"'Say! Let's talk about something else.'

"As a matter of cold, hardpan truth, the Automobile Club of America has not a legitimate support to lean on and if it were not for the fact that most of the New York 'auto editors' have their knives out for Batchelder and Elliott and to whet them are attacking and misrepresenting the A. A. A. and magnifying every trifling weakness, New York's big club would be displayed in its true light—the sorriest and pettiest and most spiteful thing that ever assumed the guise of an automobile organization and one that merits not an iota of support or sympathy. Its injecting itself into the racing situation by promoting the Savannah race, 'in order to uphold its foreign affiliations' was a mere afterthought, and is a subterfuge to 'save its face' that is so transparent that few who can put two and two together should be deceived for more than two consecutive minutes. Its 'foreign affiliations' had nothing to do with its withdrawal from and its present attitude toward the A. A. A. It withdrew, leaving behind what it called its 'best wishes,' solely and only because it could no longer dominate the New York State Association of the A. A. A. Since the day of The Wonderful Shattuck, who in the club, in the State association, and in everything else, either ruled or ruined, rule or ruin has been the policy of the club. In the A. A. A. this policy had opportunity for full swing through the A. C. A. men who served as presidents or grand moguls of the national organization. They had things pretty much their own way or were handled like spoiled kids, until Judge Hotchkiss, of the Buffalo Club, because president and Oliver Quayle became head of the State association. These men, and some others from up-State, had minds of their own, and the A. C. A. thunderbolts didn't scare them a little bit; they caught the bolts with bare hands. For three or four years the club has had in pickle a profound and voluminous law which Dear Lawyer Nile, prepared at great expense of time and grey matter and which has the unstinted approval of Shattuck, Scarritt, Dave Morris and other 'lords' of the A. C. A. It is a 'bird' of a law for rich men. It provides for extortionate license fees, revocation of licenses, tremendous fines and other things. Fees of $30 or $40 a year, or a fine of $500 or $1,000 would be mere nothings to the Shattucks, Morrises, Hoyts and Garys, who can light fifty-cent cigars with five dollar bills, if they choose to do so, and who have a stable of cars and drivers upon which to call, in case the license of any one of them should be revoked; but for the car owner who puffs fifteen centers and is his own chauffeur, the Niles law has quite another complexion. In return for the high fees and fines the law provides certain things dear to the A. C. A. heart—things that will not make it so easy for the police to interfere with the pleasure of drivers in New York City.

"For at least three years, the club has been trying to ram this law down the State association's throat, whether the rest of the State liked it or not. The up-State clubs were willing to offer a compromise and did have introduced a compromise bill. As it did not suit Shattuck and some of the other A. C. A. domineers, Shattuck butted into the legislature and queered everything. Some people very properly expressed their opinions of such proceedings, whereat the A. C. A., in substance, decided that the State association, the rest of the State, and the A. A. A. might go to hell for all it cared; it was mad and henceforth would play in its own backyard.

"Then along came 'Senator' Morgan with his Florida grievance. He uncovered it so that Sam Butler could get a good look at it, and Sam, he takes another dose of oil and spills a bit so that the way is greased for the A. C. A.'s entry into the racing game. But despite Sam's best efforts and the A. C. A. name, the Florida carnival proved a first class fizzle, and Morgan's wounded pocketbook bled worse than ever. Meanwhile Tom Moore and an 'auto editor' were carrying around an 'association' in their hats. They pulled off a profitable little hill climb and becoming more ambitious and seeing millions in a road race on the Vanderbilt cup course, they tried to get the course, and failed; and thus were two more unselfish men made sore. Vanderbilt and the A. A. A. were blamed for

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the failure. Nothing daunted, when Moore learned that a wealthy inn keeper and real estate man in Westchester county had lots of ground for sale and which needed booming, he sought him out and the Briarcliff road race was the medium used to boom it.

"Afterwards Moore convinced several of the New York dealers and importers who entered cars in that race that they were foolish to pay big entry fees, etc., when instead they could run races and divide the profits, or make other race promoters 'see' them in order to get entries. By 'them,' I mean Moore. Tom 'sees' them first and promises or guarantees entries, and if Tom isn't thereafter employed as manager or press agent, or both, it isn't Tom's fault. The so-called Motor Racing Association—which, by the way, is now a dreadful corporation—consists of these dealers and importers. As a corporation it can be 'seen' much more respectably. Moore is behind the scenes and the role of 'outlaw,' which the association is playing, has served good advertising purposes, although the hired men who will do the driving probably will not awaken to the fact until the hot water reaches their eyes.

"All the while, the 'auto editors' were slyly swinging their battle axes in the direction of Batchelder and Elliott and when the Automobile Club suddenly awakened to its marvelous respect for European manufacturers and its 'foreign affiliations,' the 'boys' executed a war dance. It gave them their long sought opportunity to swing their axes in the open and the 'morgue,' as was their wont to describe the club, became paradise. The A. C. A. is now a paragon of virtue and the A. A. A. a monster shorn of all disguise. The position of the Savannah Automobile Club affords another interesting phase of the itching palm situation. Last Fall, it was glad to have the support of the A. A. A. in promoting its road race. Later it wanted the Vanderbilt cup race, and when it couldn't get it, it turned tail like a yaller dorg and asked the Automobile Club of America to tie its tin can to its tail. It is a pretty exhibition of sportsmanship for revenue only.

"The whole business is sickening, and it is time the whole truth were told. The telling may violate the ethics of the reportorial profession, but the fashion in which the 'auto editors' and spacefillers are 'harpooning' and injuring a national organization which is seeking to do good, chiefly because some of their financial schemes have been hurt, and because of their aversion to one of their number who happens to be within the A. A. A., is a disgrace to the newspaper profession. Some of them may stand on their hind legs and say it isn't so, but you can take it from me that it is true and that they know it is true. I don't know much about methods that prevail in big newspaper offices, but it certainly does seem odd that reporters should be given such free rein in order to 'even up' personal grudges."

VANDERBILT CUP RACE ASSURED

Positive Announcement Made by the Commission—Great Series of Sweepstakes to Supersede Elimination Trials.

Wm. K. Vanderbilt, Jr., arrived in New York from Europe on Tuesday, September 8. The following day he attended a meeting of the Vanderbilt Cup Commission held at the headquarters of the American Automobile Association. Jefferson De Mont Thompson presided, and it was announced that the Vanderbilt cup race will positively be run on October 24, over the completed section of the Long Island Motor Parkway and the rest of the course, as already mapped out.

A. R. Pardington, manager of the Motor Parkway, reported that the construction of the Parkway is up to schedule time and the new cement highway would be completed in every detail in plenty of time for practice work.

Several more entries were pledged and Mr. Thompson stated that the entrance fee of $1,000 would hold good for the entry of one, two or three cars; the entrance fee, originally, was $1,000 for each car, but, under the new arrangement, each manufacturer will have the privilege of putting in not more than three cars for $1,000. The entries will close on October 1st, without forfeit.

Those who attended the meeting were William K. Vanderbilt, Jr., M. J. Budlong, Alfred Reeves, F. G. Webb, A. R. Pardington, A. G. Batchelder, Robert Graves and F. H. Elliott.

After the meeting it also was made known that instead of holding an eliminating race on October 10th, the cup commission will inaugurate the Motor Parkway on that date with an inspiring program. The inaugural event will be styled "The Motor Parkway Sweepstakes," an event which will include cars of every class selling from 1,000 up.

They will all start together at 9 o'clock on the morning of October 10th around the Vanderbilt Cup Circuit of 25 miles. The larger cars will go the entire distance, ten laps (250 miles) and the smaller ones will go from four to eight laps according to their selling price.

It is believed that owing to the demand for a race between the 1909 models of various classes and makes the entry list will run up to more than 75 cars for this new event. The very novelty of the thing is attractive to the manufacturers who wish to display to the general public the qualities of their 1909 models.

The Cup Commission has offered the manufacturer more liberal conditions than have ever been given in a stock model event. The entrants must furnish evidence that the machine is of a type to be produced in quantities during 1908, but touring cars will not be required to carry touring bodies or passengers. There is no restriction about mufflers except that they must not turn towards the ground and machines can be geared for racing purposes. Exhaust mufflers may be removed if desired together with all mud guards and other unnecessary equipment for a racing machine.

The entry blanks for the Motor Parkway Sweepstakes will be out this week. The preliminary announcement of the various classes of events, in which five thousand dollars in prizes are offered, is as follows:

Class No. 1. Motor Parkway Sweepstakes—For cars selling above $4,000. Entry fee $150 for each car. Cash or plate prize to the winner of $1,000. Distance, 10 laps of the circuit.

Class No. 2. Meadow Brook Sweepstakes—For cars selling over $3,000 to $4,000. Entry fee $125 for each car. Distance 10 laps of the circuit. Cash or plate prize of $1,000 to the winner.

Class No. 3. Garden City Sweepstakes.—For cars selling from $2,001 to $3,000. Entry fee $100 for each car. Distance 8 laps of the cup circuit. Cash or plate prize of $1,000 to the winner.

Class No. 4. Jericho Sweepstakes—For cars from $1,001 to $2,000. Entry fee $75 for each car. Distance 6 laps of the Cup circuit. Cash or plate prize of $1,000 to the winner.

Class No. 5. Nassau Sweepstakes.—For cars selling for $1,000 or under. Entry fee of $50 for each car. Distance 4 laps of the cup course. Cash or plate prize of $1,000 to the winner.

Motoring Furnishes New Surgical Term.

Among the new names added to the nomenclature of human afflictions by Dr. Thomas Oliver in his recently published book, Diseases of Occupations," the motor car is responsible for at least one. It is described as "chauffeur's fracture" and is the unhappy result of cranking with the spark too far advanced. Oliver is professor of physiology in Durham University, England, and his exhaustive treatise on the special dangers attending each different occupation gives considerable explanation of the dangers to the wrist and forearm attending the back kick of an automobile motor.

Ten Cents a Mile Toll.

Motorists desiring to tour through Montgomery, Pa., may cheer up, for the company which controls the turnpike through Upper Dublin township has doubled the toll rates and now charges automobilists ten cents to drive a distance of one mile on their road. The president of the turnpike company declares that every motor car passing over the one-mile stretch of road on what is known as the Butler Drive, does eight cents worth of damage to the surface of the road.

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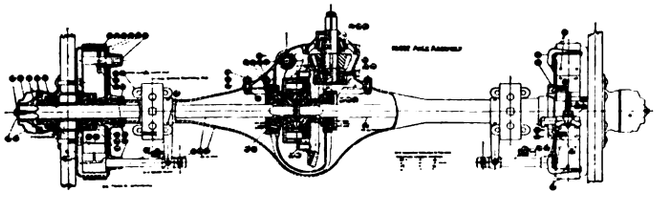
NEW "ONE-PIECE" LIVE REAR AXLE

Advanced Ideas Incorporated in Latest Timken Production—Special Features of Construction and Their Effects.

Presenting from the rear a view akin to the smoothness of a watermelon and unmarked by crinkle, corrugation, crevice, depression or angle clear out to the two ends, the new pressed steel rear axle which is being prepared for the market by the Timken Roller Bearing Axle Co., of Canton, O., is not only a conspicuous example of the "single-piece" live rear axle construction which has latterly become the ideal of many designers, but incorporates a torque rod mounting which is so advanced that only the Pope-Hartford and a single foreign car have been known to have anything like it in preparation for the coming season. Everybody knows that "single-piece" rear axles are not such in actual fact, and that in one sense the use of the words is a great exaggeration, but in the sense that a single piece takes the place of a great number of pieces and parts bound together by bolts and truss rods in forming the rear axle and gear housing the term "single-piece" has its justification.



REAR VIEW OF REAR AXLE, SHOWING ABSENCE OF PROTRUDING PARTS



PLAN VIEW OF REAR AXLE, GEAR CARRIER, BRAKES AND WHEELS

An objection offered against axles of the built-up type is that they require trussing and after the whole paraphernalia of plates and rods and bolts has been put together one part will exert a leverage strain against another when shock is imposed, that will make the effects much harder than they should be, and further, with the outside truss work the amount of vibration and jar is considerably augmented. The "one-piece" Timken axle is a pressed steel form, made of special basic open hearth steel of high static resistance, shaped to give better than truss resistance to load and thrust and to eliminate the vibration common to cast or forged axles of the built-up type. As shown by the illustrations, advantage is taken of the great strength in globular and tubular forms, and resistance is distributed proportionately to points of greater stress by graduating the thickness of the metal.

From the hubs inward as the thickness of the metal decreases the circumference of the tube increases and finally merges into the globe of the central case by a graduated flare, thus avoiding sudden angles or changes of direction, which are said ordinarily to add leverage and interrupt shocks and stresses at the points least likesmooth without angles, protruding parts, supports or braces. As at present designed ly of capable resistance. The new construction makes the entire load bearing and gear encasing member a single unit, clear and the axle is suitable for cars weighing up to hinged through a long vertical bearing to allow for side to side movement of the rear 3,000 pounds when empty and not exceeding 45 horsepower. Among its other special features are a torque rod mounting axle in relation to the body. The differential gear carrier in the housing carries the gear on Timken roller bearings at the two ends and the pinion of the power shaft is also supported on a double set of Timken bearings.



FRONT VIEW OF REAR AXLE, SHOWING GEAR CARRIER, SPRING BASES AND BRAKES



ONE-PIECE PRESSED STEEL REAR AXLE

FINDING LIMIT OF LOAD CAPACITY

Exacting Tests with Gyroscope on Hill and Level Yield Interesting Results—Big Effect of Upgrade Travel.

Exactly what is the utmost carrying capacity of a car—and by "carrying capacity" is meant capacity for human freight—often becomes a moot point when the subject is up for discussion. Few people are apt to agree or to guess right. It was to settle a question of the sort that a number of experiments in carrying capacity were tried one day last week by representatives of the Gyroscope company, on the 10 per cent. Fort George hill, New York, the results being distinctly interesting. A 16 horsepower stock Gyroscope runabout was started with one, two, three, four and five adults aboard, and each time the car had no difficulty in climbing the hill without recourse to the low speed gear. Little difference was shown in the manner in which the climb was negotiated, whether two or five people were perched upon it. Six persons, however, caused it to make the ascent with some difficulty and seven made it go very slowly. With eight adults the Gyroscope balked, however. This was not surprising as the total weight of the passengers was over 1,300 pounds. On a level road, the car sustained 20 miles an hour without difficulty with ten people hanging to it, and it was able to run, though slowly with twelve. This was the limit of the experiments, as it was feared that more weight would cause the frame to sag. Besides there was no more room for passengers to attach themselves to the car.

"The A B C of Electricity." Price, 50c. The Motor World Publishing Co., 154 Nassau Street, New York City.

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MENTAL MEASUREMENT OF SPEED

Its Difficulties in Connection with the Many Phenomena of Motoring—The Conscious Recognition of Safe Limits.

Contending that few people may ever hope to judge their own driving speed accurately and that errors in calculating the speed are but the natural results of the fixed mental habits of associating noise, wind and rapidly changing visual impressions with rapidity of movement, A. J. McKinney, a writer in the London Autocar explains some of the "many phenomena" that take place in motoring. Incidentally he drags up the one-time raging question "Do motors run better at night?" only to answer it in the negative and to explain how the affirmatives have probably been led into their belief. He says:

"A story is told of two schoolboys who were once taken for a walk in the country by a wise schoolmaster. Upon their return he asked them what they had seen. The first replied that it had been very dull, and for his part he preferred something more exciting. But the other, who was observant and intelligent, contradicted this, saying that so many things had struck him that he could go on forever. Questions as to how certain insects could move about in water, why others when settling upon a blossom deposited a particular substance on them, the system of warning others of their species upon the approach of a stranger, seen in some birds, etc., etc., led him to learn something of surface tension, fertilization, and of the reasons for the survival of the fittest. The story is an illustration of what can be seen every day in the numerous motorists who skim about the public roads.

"Though to outward appearance we are gifted alike in having the usual number of senses, it does not take long to notice how differently people use them. Traveling in a car is delightful with some companions, for they see a remarkable number of phenomena of which others are quite oblivious. Their chain of deductive reasoning, too, is highly interesting to one of an analytic mind, and can turn what otherwise would be a dreary and uninteresting journey into one which gives endless food for reflection. And what deeper joy can be found than that of probing Nature's storehouse for the miracles and secrets which she will not reveal except to the earnest seeker after information? Psychology, for instance, is entrancing at times, but it has drawbacks which may eventually spoil the harmony of a trip, while the discussion of problems social and economical does not always, owing to the lack of piquancy, appeal to motorists.

"When one takes an intelligent interest in the rapidly changing and varying phenomena to be seen on all sides when motoring, nothing—except perhaps aerial navigation—can be imagined more delightful. What problems as to the intimate relations and reflex actions of ignition, carburation, humidity of the atmosphere, effect of elevation and surroundings, etc., etc., arise in the mind, and, as we investigate them, an endless vista of side issues and queries opens up beyond, which makes us despair of ever passing the fringe of the enormous volume of Demonstrable Truth that lies untouched before us. Every thinking man and woman has over and over again wondered dimly why such and such a thing happens, and, like Captain Kettle, made a note of it for future enquiry. But, alas! we live at such a rapid rate nowadays that very few of us have either the knowledge of how to set about such research, or, if thus favored by the gods, the leisure for the purpose.

"That many of the ordinary every-day events puzzle or mislead us, even when we have a satisfactory working hypothesis to go upon, is undoubted, and must be put down to natural defects in ourselves. Look for instance, at the strong tendency to self-deception we experience through our senses. Upon this depend hallucinations—or, better still, illusions—from which no one is free, even when he knows well that an experiment is taking place. One need only mention conjuring as an instance of the manner in which people can be hoodwinked through the sense of sight, which, indeed, is the key to many things which cause us to ask "the reason why" on an ordinary motor trip.

"Of all the problems that face us in the car that of speed is the chief. And here I am treading on thorny ground, having a vivid recollection of voluminous and heated correspondence in the automobile press on this very point. So interesting and contradictory have been other people's experiences in regard to estimating their pace that a slight sketch of some of the conditions that influence one's judgment may not be out of place. In my own case, after having tried hard for a couple of years to acquire the faculty of judging various speeds accurately, I find myself as much at sea as ever when calculating speeds, as the kind of car, difference of surroundings, alternation of light and shade, one's mental condition, and frequent changes of speeds are powerful factors in the question. So pronounced indeed are they, that when traveling at really high speeds it is impossible as a rule under these conditions to gauge one's speed within ten miles an hour. . . . . Let anyone go through a week's test with a reliable speedometer that registers correctly, covering it up while the speed or conditions vary, and giving an audible guess before looking to see if he is correct. In particular, if this is done after dark, an easy solution will be found to the query, 'Does a car run better at night?'

"Conditions were referred to just now as having a decided effect upon one's estimate of speed. Among the most important are noise, direction of air currents, character of contiguous objects, difference in intensity of light, etc.

"Under the term 'noise,' we find quite a number of contributing factors, including those due to external causes, such as road surface, other traffic, and the reflecting properties of walls and the like; as well as the internal, i. e., the type and state of the car itself. And all of these are modified by the subjective factor or personal state. To form a fair opinion the observer's mental or impressionable state must, of course, remain in statu quo, otherwise an endless series of complications set in which make any satisfactory analysis out of the question. Speaking generally, a 'noisy' road will make a car's speed appear greater than it really is, but this again is modified by the presence of other vehicles. And a still further qualification is found in the nature of the rest of the traffic, a large number of vehicles close together having an effect different from that of a few passing at intervals.

"As a rule an experimenter will find that if another vehicle travels alongside him on a rough road his speed will seem greater than before, while, curiously enough, the same thing is found when other cars meet him. In the former case an echo is caused, while in the latter the mind carries with it, for a time at any rate, the impression produced by the combined rates of speed. The form of neighboring objects, again, is influential, buildings and walls close alongside intensifying the hum of the mechanism and beat of the exhaust, leading one instinctively to overrate the speed. Very few people, indeed, are aware how easily sound is reflected, even the small posts used in wire fences throwing back a perceptible 'zip' as one passes. And directly one gets away from houses and walls into the open country the speed seems to fall off because the echoes vanish. This mental impression is no doubt due to the fact that the human mind, having no experience of speed in terrestrial objects apart from sounds, cannot dissociate the two, reasoning that the louder the noise the higher the speed.

"Another factor that considerably interferes with one's mental appreciation of pace is the influence of air currents, a strong breeze in the face often intensifying speed considerably. Here again it is a question of environment, the general experience that motion causes air resistance or wind leading the mind to infer, vice versa, that wind means usually motion. Now when we are traveling in a speedy motor car we have no faculty for discriminating between air velocity due directly to our own motion—i. e., as a breeze in the ordinary sense of the term. For instance, let us suppose the wind is blowing at fifteen miles an hour, and the car is moving at thirty-five. The effect on its occupants is then the same as

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hour on a calm day. Now, even when one knows that the day is windy, the mind cannot determine how much of the car's apparent speed is due to the natural breeze, and our perceptions are therefore at a loss. Or again, imagine the wind blowing behind. At thirty miles an hour the passengers merely feel a gentle zephyr in their faces, and will think they are merely drifting along.

"I might say more as to the effect on the speed estimating powers of the mind of running through variegated country—i. e., passing through valleys and woods or into patches of gloom and bright sunshine in rapid succession—but it is hardly necessary now. But one thing that is distinctly worth noticing is the peculiar effect on our ideas of speed due to darkness. That we overestimate speed at night—quite apart from any other cause—is to my mind indisputable, and I do not mind challenging anyone to prove if he can that I am wrong.

"But two things that will bear out my contention are the speedometer and the time taken over a well known journey. The first named will invariably be found to show a surprisingly low figure, while the latter is longer than usual. As to the reason for this deception opinions vary. In my opinion it depends partly on the fact of our visual powers being restricted, since we mentally judge pace by the time taken to arrive at an object after first sighting it. In other words, we do not allow sufficiently for the very much shorter distance covered under these conditions in a specified interval.

"Rapid variations of pace, too, also have great influence on our speed-judging powers, particularly if experienced for a quarter of an hour or so, making it impossible to estimate correctly. For instance, recently, when taking out a nervous lady, I traveled at something like ten miles an hour for twenty miles or so, after which I quickened the pace. After going at what seemed to me a hazardous speed, I could hardly believe my eyes, for on looking at the speedometer it only registered eighteen miles an hour! Again, on another occasion, after a prolonged run at high speed, I slowed down, as I thought, to a jog-trot speed, and yet it turned out to be just under thirty! The truth of this is shown by the experience of numerous thoughtful motorists, who will bear out my contention that to estimate one's speed accurately when in a car is well nigh impossible.

"On the whole one can sum up the question by saying that the general tendency is to under-estimate low speeds and to overestimate high ones. At the same time no experienced motorist will make a mistake as to danger. He may not be able to estimate his speed correctly in miles per hour, but he knows instantly if he is going too fast for any given environment. This, after all, is very much more important than the ability to state accurately whether he is running at twenty miles an hour or at some slightly higher or lower speed."

PLANS OCEAN-SKIRTING BOULEVARD

Governor Fort Advocates a State Road From Atlantic Highlands to Cape May —Estimates Cost at $400,000.

At a dinner given at West End, Long Branch, N. J., last Thursday evening, at which many prominent persons were present, Governor John Franklin Fort presented in detail, a plan for the construction of a boulevard, 120 miles in length, to extend along the Jersey coast and connect all of the seaside resorts between Atlantic Highlands and Cape May, with the northern end to join the Parkway roads to New York and the southern extremity with Philadelphia.

Whether or not some of the State's higher authorities have consciences that hurt, in view of the way motorists have been mulcted by pickpocket laws, is not stated, but the newly proposed boulevard will cost approximately $400.000, a fair chunk of what has been lifted from motoring purses during the last three years. Jefferson Seligman was empowered by the property owners present to appoint a committee of 15, which will include the senators and assemblymen of Monmouth, Ocean, Atlantic and Cape May counties, through which the road will pass, to prepare legislation with a view to the construction of the boulevard by the State.

In his speech, Governor Fort said: "In 50 years our children will see practically an unbroken city along this coast and living in it two and one-half millions of people during at least three months of the year. All the New Jersey coast towns should be linked together by a single road system, and all the inland towns of the State, from county seat to county seat, from Newton in Sussex Sussex to Cape May Court House in Cape May, should be equally united together by a continuous highway. These two highways, the one on the coast and the inland one, should, in my view, be under State supervision and built, where not now built, by State expense, and hereafter maintained by the State without cost to the local municipalities. To insure this being done the municipal governments would no doubt voluntarily transfer the control of such a road over to the State. They probably would gladly do this if they were relieved from local taxation as a result.

"First and foremost, it must be conceded that this must be a State road. It is more than a local enterprise. It must be maintained as a unit, and it must be maintained evenly in all its length. This the State only can do.

"What should be done in the immediate present is to get the control by the State of such roads as now exist and can be utilized, repair them and place them in superb condition. Then, macadam and gravel them to the full width of the road from curb to curb. If the road begins at the Highlands, which the people of that borough very much desire, it can be reached from Matawan and Keyport, and it will need but little construction over the Highlands to Seabright. Beginning at Seabright and running to Ocean Grove there is at the present time practically a complete roadway, much of it on the ocean front, the only break being at Deal Lake, where a bridge with about 45 feet span would need to be constructed."

Here the Governor outlined in detail the balance of the route, which is designed to pass through Fletcher Lake, Shark River, the State camp at Sea Girt, Manasquan, Bay Head, across Barnegat Bay by bridge to Toms River, Cedar Creek, Tuckerton, and thence to Atlantic City, and then he continued:

"The approximate distance which would be covered by this proposed highway is about 120 miles. The cost of this enterprise is not prohibitive. It is believed that the entire work, including all necessary bridging, with the widening where necessary of existing roads and the completion of the roadbed from curb to curb, can be done inside of an expenditure of $400,000.

"The figures which I am given by the Automobile Department of the State show that the revenue from licenses and fees under our present automobile law will not be less than $175,000 per year. By utilizing a portion of this, under legislative authority, if it can be obtained, we shall have the revenue to repair these great highways through the State."

Cold Beer for Hot Motor.

"'If a broncho has bronchitis in his broncho-bronchial tube,
Will an auto guzzle beer?' asked the hayseed, country rube—"
—Sonnets of Peri Pundar.

And the answer comes decisively—it will. First it was a Goldfield mining man who landed in New York City the other day who told how he saved a party from being stranded in a Nevada desert 40 miles from nowhere and half as far back, by pouring a case of beer in the cooler when the water supply became exhausted. Now comes the authentic information from Salt Lake City that six quarts of the amber brew saved a party a walk of six miles also over blistering sand. The car was of the air-cooled type, but the Utah atmosphere was so torrid that the engine became overheated and it was a long walk to the nearest water supply. One of the party remembered the case of beer in the tonneau—and there's the solution. It reasonably may be expected that these incidents will present suggestions in Maine, Georgia and other prohibition States. It could be sold in five gallon cans as "automobile engine cooling fluid, and the prohibitory laws might remain inviolate.

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AUTOMOBILE RESERVE FOR ARMY

German Military Authorities Perfecting Their Plan of Subsidizing Cars—Outline of the Scheme.

The national importance of automobiles in time of war is now receiving very careful attention from the German military authorities, and already they have taken a bold step in announcing a subsidy scheme which will enable them to secure the services of a large number of cars in any national emergency, says The Field. They favor cars of not less than 30 horsepower, and for each of these will pay a purchase subsidy of $1,000, and maintenance subsidy at the rate of $250 for five years. From this it will be seen that the private motorist or the manufacturer who accepts the subsidy arrangement, and whose car passes the military examination, will receive a grant of $250 per annum for a term of five years, and if at any time during that period the Government desires to purchase the car he will receive for it a sum of $1,000.

The maximum amount to be made out of this arrangement is probably $2,250, and in many cases this might not be an adequate return to the owner. A scale is being drawn up so as to equalize matters when the horsepower of the cars is higher than 30 horsepower, and doubtless little difficulty will be encountered in making the arrangement workable on an extensive basis. Moreover, it will not be altogether regarded as a financial deal by the motorists concerned, as the success of the scheme has national importance. The German authorities realize the utility of the motor car in modern warfare, and with a large number of reliable and suitable vehicles at their command they would have a most efficient means of light transport.

Speed will be a great factor in the next great European war, and though motor cars cannot be altogether used in the place of ordinary military transports, they can on various occasions supplement them with much advantage. Perhaps the main use will be for enabling officers to get about quickly, and as modern battles are fought over very extended areas a swift vehicle like the motor car is essential.

With, say, a thousand motor cars at the Government's disposal, an attempt, too, might be made to use them in moving comparatively small forces of men quickly from point to point in an emergency. If a special body were designed which enabled ten soldiers to be taken on a 30 horsepower car, the thousand cars could transport a body of ten thousand men with a speed and directness impossible by any other means. Now, the rapid movement of such a force might mean all the difference between success and failure in many an encounter, and as the cars might be able to accomplish the journey twice within the period, during which the men could be usefully employed at a certain point, it would mean that possibly 20,000 men could be moved to the place with celerity.

The question has importance also from the difficulty most armies now find in getting an adequate supply of horses. It is stupid, of course, to argue that the motor car can entirely displace the horse in warfare, but it will enable a less number to be used, and will permit the horse to be specialized in few branches of work instead ofbeing applied to almost every class of transport. The wastage in horseflesh during a campaign is appalling, and a good deal of it could be prevented by the adoption of mechanical haulage.

Why Amateurs Avoid Competitions.

"Many of the owners of automobiles who are spending their leisure with this modern vehicle, have given up their favorite recreations for it, yet in vacation seasons the motorists are going their own ways alone," says R. R. l'Hommedieu, in the San Francisco Chronicle. "There is something radically wrong, for these men enjoy coming together in competition and in a friendly way. The only solution that seems feasible was brought out yesterday, when the situation was being discussed in automobile row, to the effect that up to the present time automobile contests, even of the most simple nature, have been dominated by the professional An amateur owner has felt himself handicapped out of the contest before it began, and therefore has lost interest in road races, hill climbs, endurance or reliability contests.

"The automobile needs these gatherings, for more enthusiasm is engendered for good roads and proper legislation than all the club and association literature sent out in cold type through the mail. The fact that an owner takes his pleasure alone, on all occasions, no inducement being offered otherwise, tends to nourish the selfishness in mankind and make him inconsiderate. He dashes along the road, kicks up dust, on a hunt for his own free pleasure, disregarding every one and everything but self. The sooner those who control the clubs and associations realize this fact and segregate the professional and semi-professional from the purely amateur driver, the quicker will cease the cry that programmed events cannot be held on account of the lack of entries."

Britons Discover an American Miracle.

Tales of "Yankee ingenuity" have a great circulation abroad, but it has remained for Motoring Illustrated to credit those in charge of the laying out of the Vanderbilt cup race course with the ability to beat gravity. The course, according to this credulous English publication, is remarkable in the character of its grades, "one half the circuit being slightly down grade and the other practically level."

SUBSTITUTE WINS DENVER RACE

Ball Takes Mathewson's Place and Captures 290 Miles Contest—Only Two Cars Survive the Long Grind.

Harry Ball, a 20-year-old driver, surprised the natives on Labor Day, when he won the Denver Motor Club's 290 miles road race in a Thomas Forty. He was reckoned too young to too unexperienced to be a dangerous, but that he possessed the necessary skill and daring is indicated by his time—6 hours 26 minutes. After finishing, a protest was lodged against Ball for having received outside help in making repairs on the road. E. Linn Mathewson, who entered the Thomas, had planned to drive, but substituted Ball just prior to the start.

L. W. Lorimer, driving the Chalmers-Detroit "Bluebird" was second, 9 min. 40 sec. behind the winner. None of the other contestants finished after Lorimer had crossed the line, as the race was then stopped.

In the field with Ball and Lorimer were two White steamers, driven by Gus Siegried and Fred Dundee; two Colburns, a thirty and a forty, pilotted respectively by Bert Colburn and Harold Brinker; a Great Smith, with C. A. Clark at the wheel; Pierce's Peerless, Al. Eubank's Studebaker, and E. W. Swanbrough's Corbin.

Starting eight minutes behind Lorimer's Bluebird, Ball pushed his Thomas hard and gained little by little each lap, until in the 16th round, when he took advantage of an acident to Lorimer's car and got in front and thereafter was never headed.

Lorimer held the lead until the 16th lap, when the seat of the "Bluebird" gave way, hurling the driver and Burns, his mechancian into the air. Lorimer got into his car again and seating himself on the gasolene tank, continued, leaving his mechanician behind.

Bert Colburn (28-30 Colburn) might have finished third, but for an accident on the 18th lap, when he ran into a wagon and wrecked his car. At the time he was in third place. The other Colburn car, driven by Brinker, was ditched on the sixth lap. The first car to go out was Dundee's White, a broken connecting rod putting it hors de combat. The other White suffered an epidemic of tire trouble, no less than twelve changes being required. Swanbrough's Corbin broke its steering rod on the 9th round. The others had their share of ill luck but Siegfried's White, the Pierce, the Great Smith and the Studebaker were still running when the race was ordered stopped. All were hopelessly out of the fight, being from 60 to 150 miles behind when Ball crossed the line the winner.

The race was run over a circuit of 14½ miles, 20 laps constituting the race. The fastest lap was made by the Corbin. It finished its second round in 15 min. 56 sec.

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INGENIOUS SCHEMES OF SCORCHERS

Typical Bluffs to Which the Cop is Apt to Fall—They Don't Work When He Gets Wise to Them.

Ingenuity marks many of the ruses and excuses used to avoid arrest for overspeeding, and the experiences of the cycle policemen whose duty it is to haul in offenders are sometimes rich with novelty. Numerous stories of schemes for thwarting or "bluffing" the police are afloat and many of these have been gathered into one "story" which the western newspapers are passing from one to another, as the exploits of local automobilists and cycle "cops," each paper adapting the account to its own town by a judicious insertion of the proper street names to lend verisimilitude to the tale.

For the benefit of those who would like to read it before it appears in the local newspaper, it is given herewith, all ready for treatment with scissors and paste pot and only requiring the writing in of the street and boulevard names where the blanks appear and the putting in of the word "north," "south," "east," or "west," as the case may be, together with the selection of the name of a county in a neighboring State.

Most of the experiences related are paralleled by truthful incidents, so that it is all good enough to be true, and it reads as follows:

The captured automobilist is generally very certain that the policeman is wrong about his speeding. And sometimes he digs up an excuse that gets him away for that time anyway.

One young man who lives in the —— End was in the habit of going pretty fast in his car and several times he ran afoul of the motorcycle policeman. But as he had shown himself decent enough the men didn't want to take him in too often.

One evening the young chap came down —— road doing about 40 miles an hour, which was something more than the squad could stand for, so they arrested him.

"Well, the minute I rode up alongside," said the policeman who did it, "a girl who was in the care beside him, a peach, began to shriek and holler like anything. She squirmed around and made on she was having a fit of hysteria. She was crying out about having her fellow arrested.

"Well, the chap turned to me and said: "Say, you're not going to arrest me with my girl as bad off as all this, are you?"

"It looked like a bad case, and after figuring it all over I told him to go along this time, but to cut it a little slower next time.

"This chap was one of those who couldn't keep his head shut and soon it was going all over town. It was all a plant. He had the girl coached to do all that hysterical business because he knew he could get away with it if she laid it on strong enough. And he was talking about it everywhere and thought he had a good joke on the police.

"Before it got going very far another chap who heard of it tried it. I was riding through —— Park when I saw a machine stopped by a motorcycle man and I rode up. There was the same performance going on, but as I'd had some of the kidding about the first fellow I didn't let this one get off that way.

"I tipped off the other policeman about the trick of a week ago, and he took the man in. It was wonderful the way that woman came out of her hysterics the moment she understood that it was all off and no use to try any more."

One of the motorcyclists was watching —— avenue near —— street one afternoon, when along came a car decorated with the red cross front and rear to mark that it was a doctor's. There isn't anything that a cycle policeman likes less than one of those signs. They have no value in earning the owner immunity, but the driver is always trying to get away on the strength of them.

This doctor's car was going close to 35 miles an hour, which is something like four times the limit in that neighborhood. The motorcycle man rode out and stopped the car.

"I'm on a life and death case," declared the driver, who looked like a doctor, "and you stop me at your peril. Every moment means a lot."

"In that case," said the policeman, "go ahead. I won't interfere in such a matter."

Off to the north dashed the automobile.

The motorcycle man had his suspicions, and he wheeled over to —— avenue himself. He kept the automobile in sight, and finally turned east on —— street.

The automobile was standing in front of a well-known apartment house. The cycle policeman went into the house and asked the hall boy if anyone had come in from the street recently. The boy answered "No."

Then the cycle man when where his instinct had told him from the first he would find the doctor. There he was in the restaurant.

With him were two women, with whom the doctor was laughing. A waiter was just bringing in one of those iced buckets, and the doctor apparently was getting ready to make an afternoon of it.

The bicycle man went out on the street and got the policeman on post. Together they returned, just as the doctor and his friends took their first sip, and the doctor lighted up a cigar.

"Is this the life-and-death case, doctor?" asked the bicycle man as he walked up to the table.

The physician was fussed for the moment, but soon recovered his composure.

"Oh, I've been there already," he said.

That was too much for the cycle man, and he arrested the doctor then and there.

A man was arrested on —— boulevard one afternoon by a policeman who had timed him at 40 miles an hour.

The man protested that he hadn't been going anything like that fast, and so on through the usual tale. On the way to the station house the policeman was riding where he could see the speedometer on the automobile. It was one of those which have a red hand to mark the maximum speed, and the policeman noticed that this hand pointed to 40 miles an hour.

"Why, look there," he said to the automobilist, "the hand on your maximum speed shows you were doing 40, just what I told you."

"Oh, that," came back from the driver in a flash, "that doesn't signify. I did that two weeks ago in —— county, and I forgot to turn the darn thing back."

Some other drivers have a little custom of taking two or three pegs out of the speedometer gear, so that when the notches down at the wheel strike there will be two or three that miss on each round. As a result the dial shows about 15 miles an hour when actually the driver is going 25 miles or so. When a policeman gets one of these operators, the cop is always invited to observe the speedometer, and to see how carefully the man is driving.

Then when the policeman says the speedometer's all wrong it is the cue of this man to say:

"Well, officer, you say my speedometer is wrong, but I have it on there, believing it's right. What am I to do? I have done my best to keep within the law," and so on. Which generally goes until the policeman makes a bluff at offering to adjust the speed measuring device with his own.

Incidentally some judges demand a great deal from a policeman in the way of being sure that his speedometer is all right.

The other morning a man was running a car up —— street almost 50 miles an hour. It was about 3 o'clock, apparently a safe hour.

As he dashed past —— avenue there was a snapping and whirring and out leaped a motorcyclist, bound after the car. It took a long, hard chase to get him, but the policeman finally nabbed his man.

"Well, what's the sense of pinching me at this hour of the morning?" demanded the automobilist. "There isn't the least bit of danger, no matter if I was going as fast as you say I was."

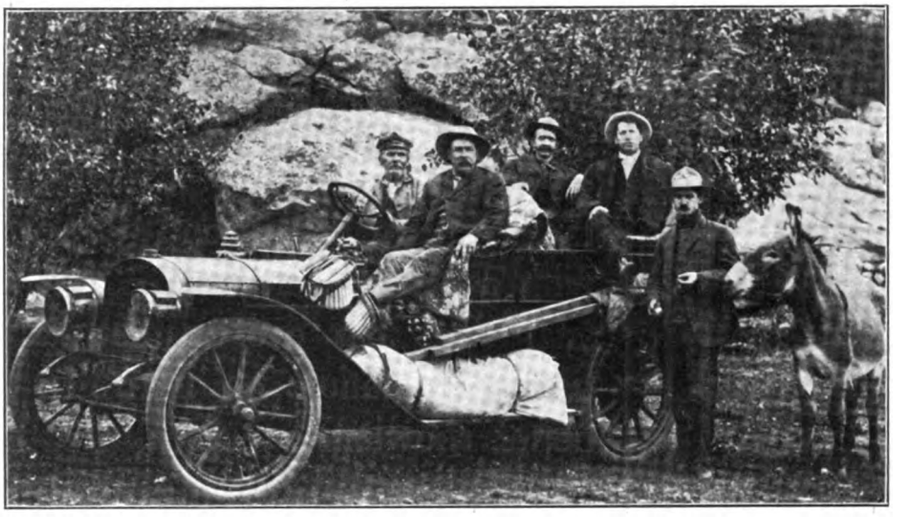
"I guess there is danger," said the policeman. "Suppose there was some drunk staggering across the road. What a fine mess you'd make of him. Or suppose a sleepy milk wagon or baker's wagon driver was going across the avenue slowly. You'd hit him before you could help yourself. I guess there's plenty of reason why you shouldn't speed at this hour of the day any more than any other. Come along."

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WHERE MOTORING IS STRENUOUS

Explorers Conquer 36 Per Cent. Grades Among Colorado Mountains—Home Seekers Make 2,000 Miles Trip.

Few residents of the East realize the strenuous usage to which the motor car often is subjected in the far West, where roads are unimproved and where towns and "magnificent distances" are the rule, some



EXPLORING PARTY ON RAMBLER IN THE MOUNTAINS

of which uses are suggested by the accompanying illustrations. In one picture is H. E. English, of Greeley, Colo., who carried a party of fellow explorers 150 miles up into the mountains to Horse Shoe Park, 9,000 feet of rough going above the level of the sea, taking a burro along to help in case of need, but no emergency arose. Mr. English made the trip in a Rambler car which carried, in addition to its own weight, five passengers with provisions and camping outfit aggregating 1,600 pounds. The journey was made without mishap over roads where grades as steep as 36 per cent. were encountered. The only trouble encountered was a single puncture.

The other illustration shows a Rambler car that participated in the rush at the opening of new government lands. Its occupants are W. G. Raish and his family of Clarks, Neb., who traveled 2,000 miles over all sorts of roads to the San Luiz Valley. What such a journey means where towns and even solitary habitations are few and far between, can be judged by a glance at the automobile burden as shown in the picture. Rough riding by day and camping out at night was the program, and the load carried, including the passengers aggregated 2,140 pounds. It included tents, a gas range, cooking utensils and assorted baggage.

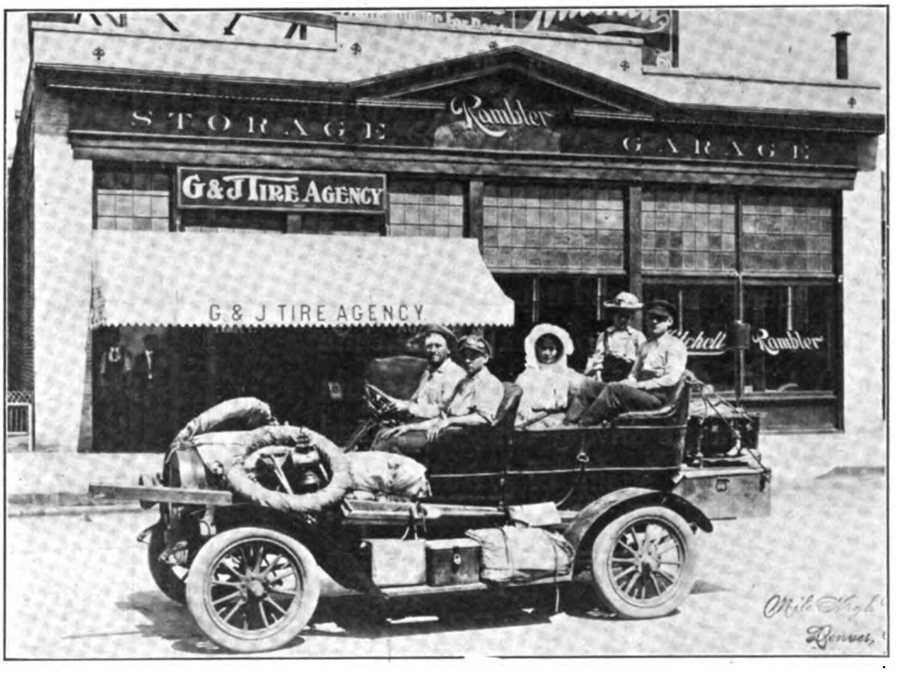
Garage Robbers Use Chloroform.

"Kindly Pass the Chloroform," was the title of a song which once was sung on the stage, and that is just what one bold, bad burglar told his pal one evening last week, when they wished to try chloroform on the dog at J. T. Barron's garage in Chicago. This they quietly did and then managed to steal a $3,000 touring car. The robbers however, were very poor motorists, for they had only steered the car a few blocks when the driver ran into a curb, smashing the front wheels and axle. A policeman saw the smash-up and hastened to the scene, but the men, who had been thrown out did not wait to chloroform him. Instead, they took to their heels. Mr. Barron was then notified and a hunt for the anaesthetic artists was started, but ended without result, for in their flight the fugitives had a sufficient handicap to give them the race.

AIDING SPEED LAW OBSERVANCE

Chicago Automobile Club's Efforts Offend Green Bay Authorities—But Kenilworth Invites Co-operation.

Since the warnings of Chicago Automobile Club sentinels at each end of a measured speed trap on the Green Bay road, have spoiled much of the Saturday and Sunday "pickings" in that section, the club has been notified by the Green Bay authorities to remove said sentinels under penalty of arrest and punishment. The club has refused to obey this order and will fight the case if necessary, for the opinion of its members is that the solution of the speed problem lies not in ambushed detection, but in open, polite warning and reminders to motorists. A similar case was thrashed out recently in England, in which the court finally decided that no person could be restrained from attempting to urge another to obey the laws. Unlike the Green Bay case, golden rule tactics prevail between the Chicago club and the vilage of Kenilworth. Recently the club received a note from the Kenilworth authorities which read: "This letter is to suggest that the village of Kenilworth would like your co-operation in the regulation of automobile speeding, and to that end requests that you send out a flagman on Saturdays and Sundays to regulate the speed of automobiles through our village." As a result, sentinels of the Chicago Automobile Club have been stationed at each entrance to the village.



EMIGRANT RAMBLER EN ROUTE FOR NEW LAND OPENING

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The Week's Patents.

891,072. Controlling Mechanism for Motor Vehicles. Charles H. Humphreys, Torquay, and Vincent J. Scantlebury, Reading, England. Filed Feb. 2, 1906. Serial No. 299,165.

1. In a speed controlling mechanism for motor vehicles, the combination of a clutch; a lever controlling the same; a shaft capable of a rotary and a longitudinal movement connected to said lever; means to rotate said shaft; a second shaft capable of a longitudinal movement only and provided with a collar, and means on said first shaft to engage said collar, substantially as described.

891,152. Driving Mechanism for Motor Vehicles. William H. Douglas, Belleville, N. J., assignor to Healey & Co., New York, N. Y., a Corporation. Filed Oct. 9, 1907. Serial No. 396,605.

1. A driving mechanism for motor vehicles, comprising two motors, gear wheels driven from said motors, connecting shaft having universal joint connections with the said gear wheels, and traction wheel shafts to which the traction wheels are secured and having universal joint connections with the said connecting shafts.

891,168. Vehicle Spring. Nicholas Hee, Baldwinsville, N. Y. Filed July 28, 1906. Serial No. 328,203.

A spring of the class described, comprising a body portion formed of a plurality of superposed leaves of upwardly increasing lengths and with eyes at the ends of said body portion leaves, means for connecting said body portion at the ends and centrally thereof to a vehicle, a shock absorber comprising a plurality of leaves of downwardly increasing lengths and bearing upon said body portion, U-shaped clips bearing over the respective leaves of said shock absorber at their ends and likewise over the adjacent portion of the body portion, and pins connecting the terminals of said clips through the eyes of the body portion leaves.

891,249. Lamp and Lantern. William S. Hamm, Lakeside, Ill. Filed Feb. 18, 2907. Serial No. 357,940.

1. In a lantern, in combination, a body, a dome having lateral air induction ports, an annular diaphragm above the ports, an annular apertured diaphragm below the ports, a flue member tapering upwardly throughout its length, fitted in the central apertures of the diaphragms, hollow downwardly tapering lobes havingforaminous walls arranged annularly upon the outer walls of the flue member and leading down from the apertures in the lower diaphragm.

891,250. Lamp and Lantern. William S. Hamm, Lakeside, Ill. Filed Feb. 18, 1907. Serial No. 357,941.

1. In a lantern, in combination, a body having a light-emitting side face, a dome having lateral air ports, a pair of annular diaphragms in the dome one above and the other below the air ports, the lower diaphragms having apertures, a tubular member fitted within the central apertures of the diaphragms, and a hollow lobe of foraminous material depending from the lower diaphragm and being in register with an aperture thereof.

891,302. Radiator for Automobiles. Max Steiner, Newark, N. J. Filed Feb. 15, 1908. Serial No. 416,023.

1. A radiator consisting of a series of round tubes, each tube having a single helical groove in its periphery, the groove being flat and leaving flat contacting surfaces between the tubes.

891,322. Carburetter for Explosive Engines. Patrick H. Brennan, Syracuse, N. N. Original application filed Jan. 11, 1901, Serial No. 89,309. Divided and this application filed Nov. 22, 2902. Serial No. 132,290.

1. In the carburetter of a gas engine, the combination with the main valve shell, of a valve therein, a source of supply for the gasolene, a float chamber connected to the source of supply, a pipe from the float chamber to the shell, a supplementary pipe from the source of supply directly to the shell, a nozzle on said supplementary pipe to conduct the gasolene direct to the shell and a needle valve to control said supplementary supply.

891,328. Vehicle. Irving Cowles and Ernest H. MacDowell, South Haven, Mich. Filed June 21, 1906. Serial No. 321,178.

1. In a vehicle, the combination with the body; forked arms at each end of the body; axles; side bars connected to said axles; truss rods for the central portion of said side bars, the said side bars between the ends of the truss rods and axles being adapted to spring; upwardly projecting arm-like ways at the ends of the side bars; rollers having channeled rims adapted to engage said ways arranged in the forked arms on said body; journals on which said rollers are slidably mounted; springs at each side of said rollers for yieldingly retaining the same in position; tie bars for said ways extending outwardly at each side thereof beyond the vehicle wheels; centrally arranged double elliptic springs connected to said body and side bars; cylinders connected to said side bars by universal joints; plungers for said cylinders; plunger rods for said plungers connected to said body by universal joints; a tank or chamber; and connections for said tank or chamber to the lower ends of the said cylinders, substantially as described.

892,340. Valve Operating Mechanism for Hydrocarbon Engines. Russell Huff, Detroit, Mich., assignor to Packard Motor Car Company, Detroit, Mich., a Corporation of West Virginia. Filed Oct. 1, 1907. Serial No. 395,378.

1. A dust guard for sliding connections consisting of a nut and a tubular metal portion of greater diameter having one end bent inward and permanently secured to the sides of the nut between its ends.

891,357. Motor Vehicle. Frank J. Mohan, Detroit, Mich., assignor to Packard Motor Car Company, Detroit, Mich., a Corporation of West Virginia. Filed Sept. 30, 1907. Serial No. 395,283.

1. In a vehicle body, the combination with the body of a metal bead or strip and securing screws passing through said strip into the body, the said strip having countersinks larger than the screw heads, and fusible metal buttons filling said countersinks, for the purpose set forth.

891,366. Internal Combustion Engine. James H. Pierce, Bay City, Mich., assignor by mesne assignments, to General Machinery Company, Bay City, Mich., a Corporation. Filed Nov. 8, 1906. Serial No. 342,489.

A motor having a cylinder, a piston and a closed crank case, the cylinder having a passage with its ends in the cylinder and adapted to have its ends alternately uncovered on the limits of movement of the piston, a carburetter having its outlet connected to a pair of pipes, one pipe entering the crank case and having a suction valve therein, and the second pipe passing from behind the suction valve to the cylinder and entering the cylinder at a point approximately in a line equidistant between the ends of the passage in the cylinder, the end of the piston uncovering the outlet of the second pipe only at its upward limit of movement.

891,368. Means for Preventing Reversing of an Explosive Engine. William B. Potter, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Nov. 26, 1904. Serial No. 234,379.

1. In an engine, the combination of a crank disc having a finished periphery, a stationary abutment, and a wedging means loosely held between said disc and the abutment for preventing reverse movement of the former.

891,429. Vehicle Wheel. Joseph Luppino, New London, Conn. Filed June 10, 1907. Serial No. 378,179.

1. The herein described wheel comprising a rim formed from a series of sections hinged together, said sections of U-shape, the tread portions extended forming integral spring spokes, substantially as described.

891,462. Spring Wheel. Samuel S. Childs and William Childs, Jr., Bernardsville, N. J. Filed May 25, 1907. Serial No. 375,580.

A spring wheel comprising a body portion having a felly thereon, a rim surrounding the felly at a distance therefrom, solid non-elastic blocks arranged concentrically on the inside of the rim, the blocks being narrower than the space between the rim and the felly, resilient blocks filling the space between the felly and the rim and having radially arranged end surfaces to bear on the solid blocks, a bolt passing through the felly and into the resilient block and securing the block to the felly.

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the resilient block having a recess to receive the head of the bolt to allow compression of the material of the block when the block is compressed, said recess permitting a slight movement of one side of the block when torsional movement is applied to the wheel.

891,467. Vehicle. Joseph H. Diel, Stockton, Cal. Filed Feb. 18, 1907. Serial No. 357,829.

1. A wheel hub porvided with a stub axle extending therefrom and having a stop-collar keyed thereto, provided with an integral yoke and with an annular bearing recess between the body of the hub and said stub axle, a driving axle having a yoke, coupling means between said yokes, a sleeve within the bearing recess of the hub and provided with spaced arms, and an intermediate axle carried by said driving axle and having a collar keyed thereto provided with spaced arms and pivotally connected to the arms of said sleeve.

891,475. Clutch. James G. Heaslet, Detroit, Mich., assignor to The Garford Company, Elyria, Ohio, a Corporation of Ohio. Filed July 17, 1907. Serial No. 384,172.

1. In combination in a clutch, a driving member, a driven member, a series of rings having an axial movement with reference to said members, clutch discs mounted upon the driven member and projecting between the rings a plurality of resilient members for compressing the rings against the discs, and a plurality of levers co-operating with the respective resilient members.

891,498. Pneumatic Tire for Wheels of Vehicles. Andre Michelin, Paris, France. Filed Dec. 30, 1907. Serial No. 408,475.

1. A bolt for maintaining in position on the rim of a wheel one edge only of the outer cover of a pneumatic tire, composed: of a screw-threaded stem; a plate fixed perpendicularly on the extremity of this stem; a wing formed on this plate, inclined at an angle suitable for bearing against one of the edges of the cover of the tire; and of a nut screwing on to the said stem.

891,522. Vehicle Wheel. Lee W. Bryant, St. Louis, Mo. Filed Sept. 6, 1907. Serial No. 391,668.

1. In combination with a wheel having a series of spokes a rim encompassing the wheel and spaced a suitable distance from the ends of the spokes, bonds secured to the opposite faces of the spokes at the ends of the spokes, and U-shaped springs engaging the rim and having their arms passed between the bands on opposite sides of the spokes, then bent inwardly towards the spokes and secured with their ends to said bands, substantially as set forth.

891,523. Lifting Jack. F. C. Butler and Eugene Cook, Kalamazoo, Mich.; said Butler assignor to Cook's Standard Tool Company, Kalamazoo, Mich., a Corporation of Michigan. Filed Aug. 21, 1907. Serial No. 389,524.

1. In a lifting-jack, the combination with a frame provided with a removable side-plate, of a rack bar; a lever; a pivot for said lever arranged in suitable bearings in said frame; a pair of pawls having laterally-projecting pins thereon mounted on said lever, one at each side of its pivot; an inverted U-shaped spring, the arms of which are arranged to engage the said pins on said pawls, whereby the pawls are held yieldingly in engagement with said rack; a pin on said frame, by which said pawl spring is supported; a Y-shaped reversing plate mounted on one of the bearings for said lever pivot, arranged so that its upwardly projecting fingers are adapted to engage said pins on said pawls, a button arranged to engage the lower end of said reversing plate for swinging and locking it out of its operative position: a boss on said frame; a pivot screw for said button, tapped into said boss; a U-shaped spring mounted on said boss, with one of its arms arranged to engage said reversing plate and the other the frame, said spring being of greater strength than said spring for said pawls; a stop on said reversing plate for said button; and means for securing said removable side-plate in position, whereby said pawl spring and said reversing plate are retained in position.

891,529. Shock Absorber. Arthur Dutrieux, Le Quesnoy, France. Filed Aug. 14, 1907. Serial No. 388,568.

An apparatus for deadening the sudden return of springs in which a piston is formed with holes and provided one one of its faces with small elastic plates, also also pierced with corresponding holes, of which the number decreases with each plate and each of which plates partially covers the other, the said plates having one of their extremities fixed to the piston and the others standing away in such a fashion that they apply themselves successively upon the piston according to the suddenness of the return of the spring to oppose themselves to such sudden return and to permit its slow return substantially as described.

891,536. Change Speed Gearing. William E. Goodyear, Newark, N. J. Filed Nov. 20, 1906. Serial No. 344,272.

1. A gearing having in combination a driving member, a driven member, and means for positively transmitting the motion of the driving member to the driven member at different speeds, such means containing an element which travels in a circular path without rotating on its own axis.

891,537. Wind Shield. Oscar C. Graff, Chicago, Ill., assignor to C. P. Kimball & Co., Chicago, Ill., a Corporation of Illinois. Filed Jan. 23, 1908. Serial No. 412,355.

1. The combination with a wind shield having a fixed portion and a foldable portion, of an adjustable support for said foldable portion comprising a bracket secured to the fixed portion, a sleeve rotatably mounted in said bracket, a clamp rod slidably engaging said sleeve and pivoted at one end to said foldable portion and a clamp having a threaded engagement with the other end of said clamp rod whereby a locking or releasing of the clamp rod is effected.

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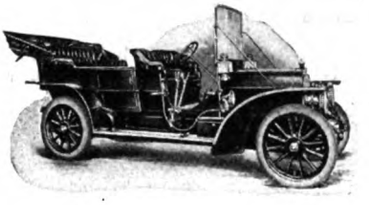
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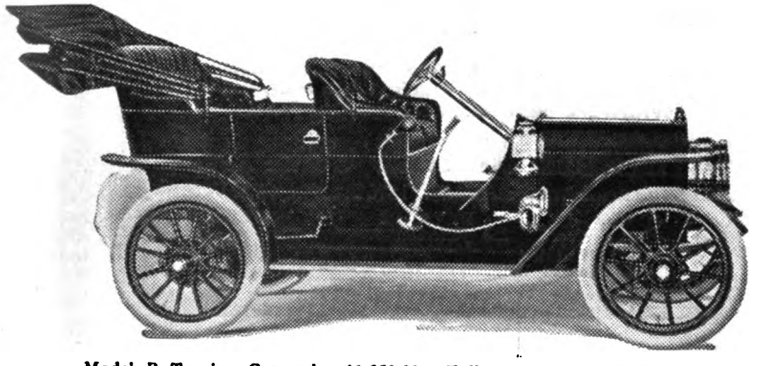


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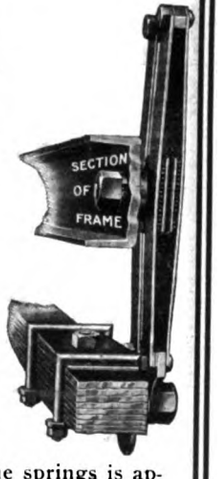
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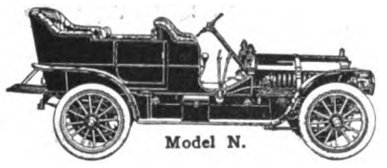
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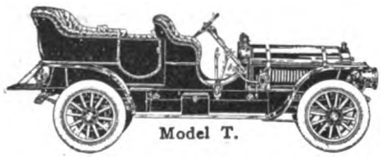

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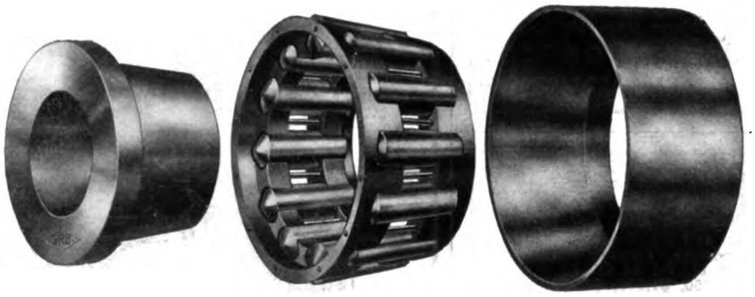
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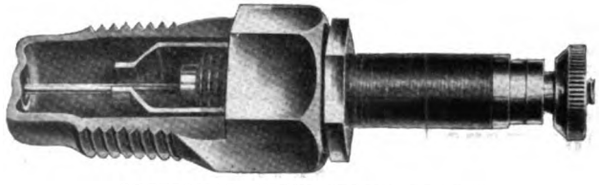
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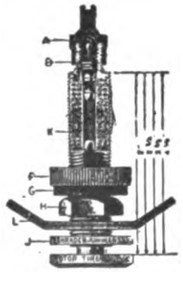
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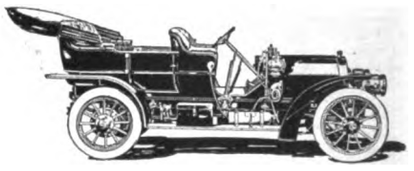
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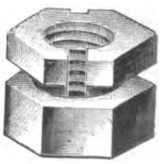
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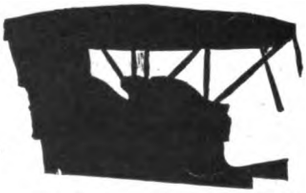
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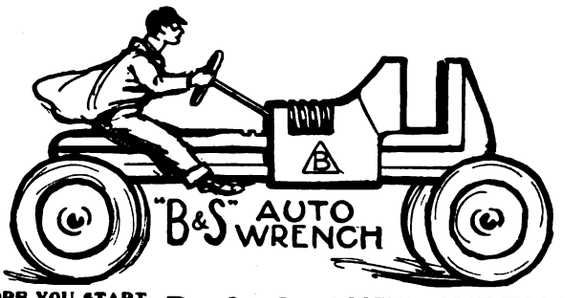
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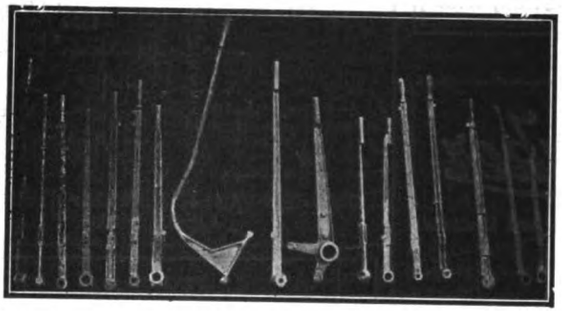


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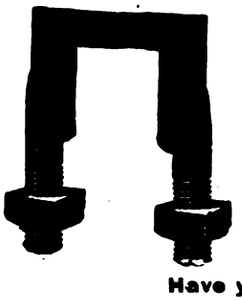
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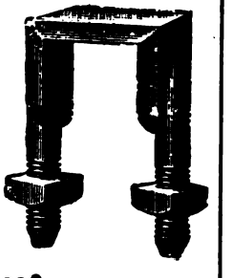
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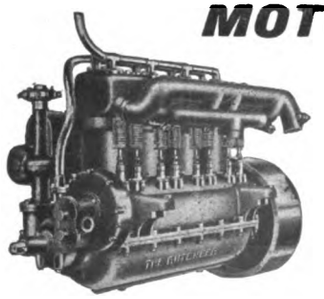
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Model "W" 1909
4 x 4, 25 h. p.

This motor is fully equipped with self contained oiling system, Magneto attachment, Fan and Carburetor. The same high grade material and workmanship that distinguishes our manufactured products will be found in this motor.

Prices reasonable. Write for catalog and full information.

THE WESTERN MOTOR CO., Logansport, Ind.

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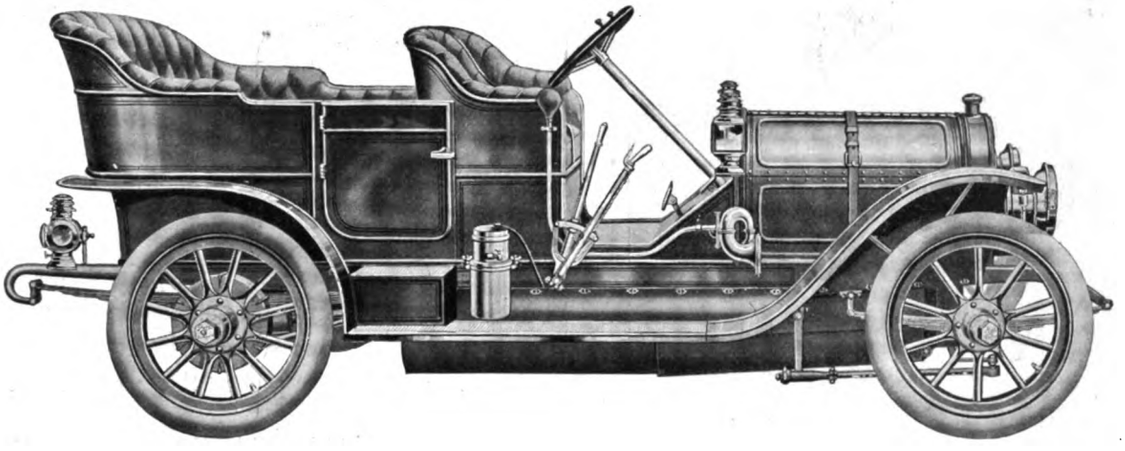
Change a bone-shaker and a spring-breaker into an easy riding, real automobile in which you can take pride and your passengers comfort. The use of S. S. S. change a near-good car to a real good car and add the finishing touch of luxury to the best cars. Our booklet tells you all about them, and is yours for the asking. Write for it.

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1909 POPE-HARTFORD MODELS 1909



Pope-Hartford Model S Touring Car, $2750

The Pope-Hartford 1909 models embody all that is best in automobile construction and will be conspicuous in the foremost ranks of the automobile world. New and important improvements, not incorporated in any other motor car, are included in these new cars, and each improvement has been thoroughly tested.

We invite comparison of the details of Pope-Hartford cars for 1909 with those of the world's best motor cars. Because of their perfection, refinement and elegance they will appeal to the superior judgment of critical and discriminating purchasers.

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The phenomenal success of the Pope-Hartford—for its success HAS been unprecedented—is the story of the development of a selected type of car to the very highest point of excellence and efficiency—a car for continuous service, excelling in accessibility of parts and low cost of up-keep, easy to handle, comfortable, of refined appearance—a car that will do practically anything that any other car will do, no matter what the make, price or horsepower—a car, in brief, that offers greater value for its purchase price than any other make of car.

Our catalog, now in preparation, explains fully all the details and mechanical excellence of the new models. Let us place your name on our mailing list for an advance copy.

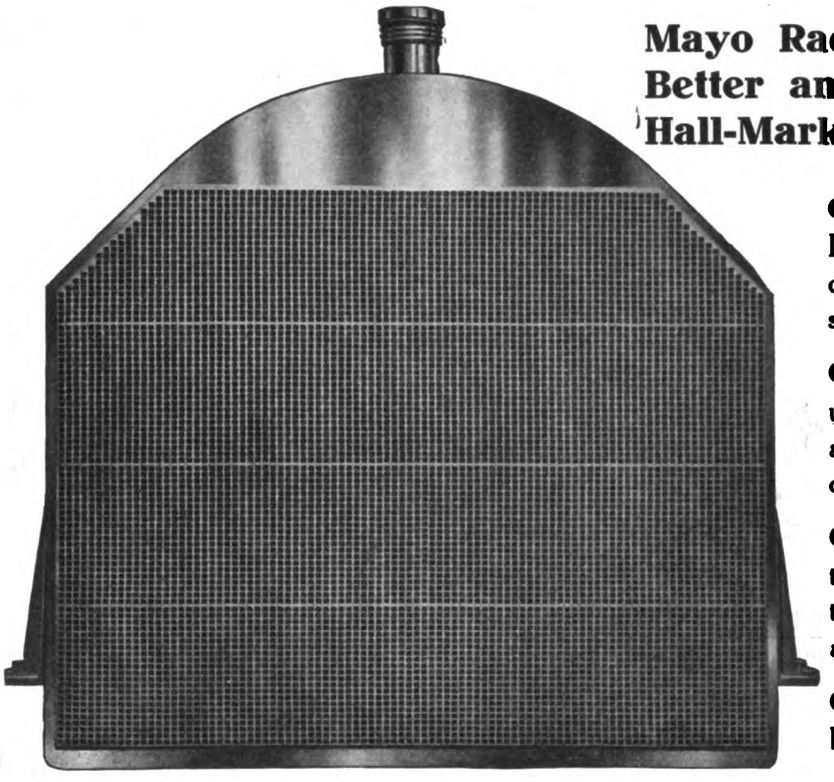
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¶ Mayo Radiators are made in a quality shop. In their construction no expense is spared, no crude methods obtain. In their use complete satisfaction results.

¶ Mayo Radiators perform their functions well under all conditions—and conditions at times are exacting. It is at just such times that Mayo quality asserts itself.

¶ The engineer can eliminate possible radiator troubles from his calculations by the adoption of the best possible radiator. The test of years and use has proved that we make it.

¶ Our capacity limit on new contracts is rapidly being reached.

MAYO RADIATOR COMPANY, New Haven, Conn.

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All side plates on both sides of the Brampton Chain are stamped "BRAMPTON."

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement. THE BRAMPTON CHAIN is made of self-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like THE CELEBRATED BRAMPTON CHAIN because some of the other chain makers began to copy the design and shape of the BRAMPTON CHAIN links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the BRAMPTON CHAIN than ever before. These chains somewhat resemble the BRAMPTON in appearance, but the manufacturers of such chains have been unable to copy the material —self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the BRAMPTON MOTOR CHAIN in the past ten years.—"ENUF SED."

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the BRAMPTON FILLS THE BILL, and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size. We have in stock chains to fit all American and foreign cars.

YOUR 1909 CAR

You can have the new car that you order fitted with the CELEBRATED BRAMPTON CHAIN if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.
Agents wanted in unoccupied territory. Catalog on request.

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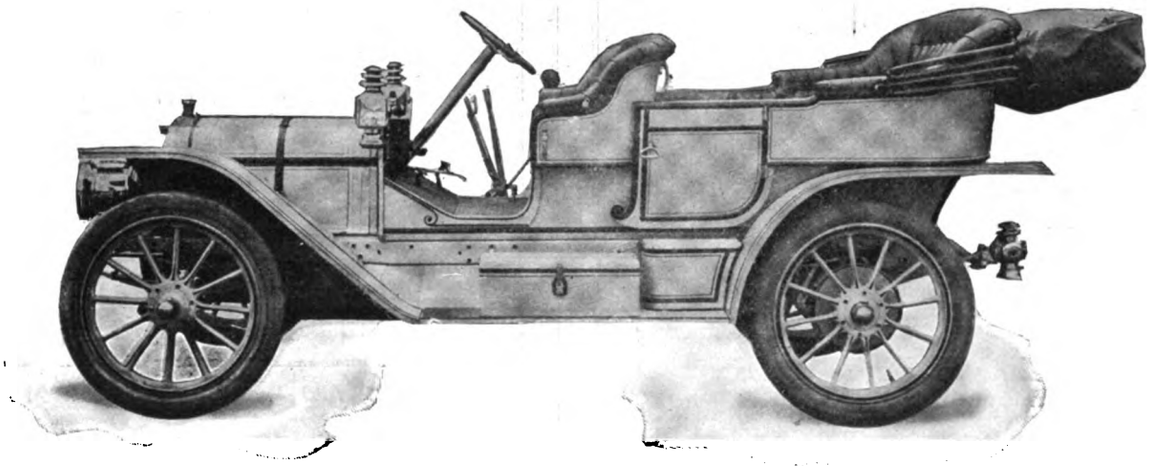
BRANCHES: 54th St. and 8th Ave., New York. 318-320 N. Broad St., Philadelphia, Pa. 1829 Euclid Ave., Cleveland, O. 824 Main St., Buffalo.
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Announcement of Model X

HAYNES

For 1909



The Haynes for 1909. 45 H. P. $3000.

For 1909 our Models S and U will be discontinued in favor of the intermediate car of 45 H. P., which will be our only model for 1909. Concentration upon this, our most popular type, will permit certain economies of manufacture so that we can afford to add various improvements without raising the selling price, ($3,000).

$3,000 for 45 H. P. is a low price, but it is not a reduction from former Haynes figures, which have always been moderate. On the other hand the car is not "cheap." Chrome vanadium steel is used liberally. Roller bearings are used everywhere. Nickel steel valve heads, electrically welded to stems are a typical refinement. A Bosch magneto is furnished as regular equipment as well as a battery and unit coil system operating through a separate set of plugs, thus giving a double and independent ignition system. Other specifications are as follows:

MOTOR—4-cylinder, 4¼ by 5, water cooled, with very large water jackets.
DRIVE—Shaft drive with Haynes roller-pinion and sprocket at the rear axle which minimizes friction and side thrust and eliminates noise entirely.
CLUTCH—Haynes patent contracting steel band upon bronze drum.
CARBURETOR—Latest type Schebler, water jacketed.
LUBRICATION—Gear driven McCord oiler.
TIRES—36 by 4 all around.
TRANSMISSION—Selective type, three speeds forward and reverse. Ratchet device makes gear stripping impossible.
WHEEL BASE—112 inches.
TREAD—56 inches.
BODY—Touring car for five or seven, or toy Tonneau $3000. Runabout or Hiker type, $2900. (The Hiker type consists of two bucket seats with large gasolene tank on rear.)
Equipment includes Prest-O-Lite Tank, baggage rack and tire holders.

HAYNES AUTOMOBILE COMPANY, Kokomo, Indiana

Oldest Automobile Manufacturers in America.

NEW YORK—1715 Broadway. CHICAGO—1702 Michigan Ave.

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THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

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Touring Car **Roadster**
Limousine **Landaulet**

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.

ROCHESTER, N. Y.

Member A. L. A. M.

TIME WAS when tire worry spoiled much of the enjoyment of motoring and the motorist who footed the bills had no voice in the matter.

THEN CAME THE AJAX wrapped tread tire with its superior services.

AND NEXT THE AJAX 5,000 MILE GUARANTEE —If the user of Ajax tires fails to obtain 5,000 miles service from his tire, it is for us to worry—not him, and we make good.

WITH AJAX TIRES the tire problem resolves itself into a plain proposition. We know that they will do, and we offer you the best kind of an insurance for expressing your willingness to find out for yourself.

IS THERE ANYTHING MORE BUSINESS-LIKE THAN THIS?

Write for copy of Guarantee, stating what size tire you are using. Address Dept. A.

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Closed Carriages

Franklin automobiles are particularly well fitted for use as closed carriages. And the line of Franklin closed carriages is unusually complete.

They are of a manageable size; roomy and of impressive appearance but not bulky. Their light weight in proportion to power makes them easy to handle. The Franklin full-elliptic spring suspension, and built-up wood frame make them ride more comfortably than any other closed carriages. They do not jolt nor jar over cobble-stones and car-tracks. The Franklin air-cooled motor runs idle any length of time without overheating. And it cannot freeze. These features are specially convenient in town use; in moving slowly through crowded streets; and in shopping and calling.

G Brougham. Handsome inside-driven two-passenger turnout. Long wheel base. Fully equipped. 18 H. P. $2,250.

G Landaulet. This is the only high-grade small landaulet on the market. Its moderate price places it within the reach of all desiring a fine closed car. Seats 4. 18 H. P. $2500.

K-2 Town Car. For city and suburban use this is a most popular model. Chassis same as used in our motorcab. It seats 6. 18 H. P. $3000.

D Landaulet. This model combines elegance and serviceability to the highest degree. Seats 5. 28 H. P. $4000.

H Limousine. No more impressive or handsome motor-car is made. This body is on the H touring car chassis. The vibrationless six-cylinder engine completes the luxury of this handsome model. 42 H. P. $5000.

Any Franklin automobile can be used any day in the year.

Touring Cars and Runabouts for 1909.

G 18 H. P. touring car, $1850.
G 18 H. P. runabout with hamper, $1750. With single or double rumble, $1800.
D 28 H. P. five-passenger touring-car, $2800. Or runabout, with single or double rumble, $2700.
H 42 H. P. seven-passenger touring car, $3750. Or runabout, with single or double rumble, $3600.
All prices F. O. B. Syracuse, N. Y.
Write for the catalog.

H. H. FRANKLIN MANUFACTURING CO., Syracuse, N. Y.

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Premier's Proof of Reliability

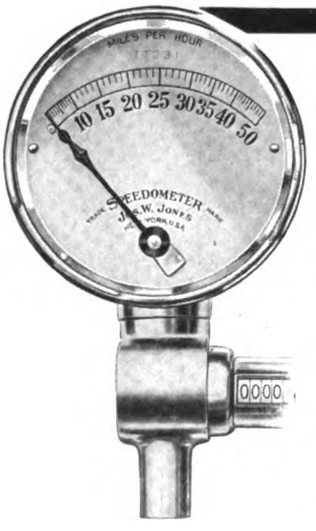
IN A RECORD WHICH STAGGERS MOTORDOM, THE PREMIER CENTURY CAR HAS SET A NEW MARK FOR FOREIGNERS TO SHOOT AT. IT COVERED 12,189 MILES IN 100 DAYS, THE TOTAL BEING 2,189 MILES MORE THAN IT SET OUT TO DO.

This car's performance has proved that America is the leader of the world in the production of a car which is thoroughly reliable, good throughout and capable of withstanding a test, the conditions of which were the most severe a motor car has ever been subjected to, with the result that the findings of a Technical Committee, who tore it down and examined every part, was to the effect that it showed no more wear than a car which had been driven only 1,000 miles. The Premier record has earned for it recognition as the highest type of American-made car.

Send for Catalogue S.

Premier Motor Manufacturing Company

Standard Manufacturers A. M. C. M. A. **INDIANAPOLIS, INDIANA, U. S. A.**



Why pay $40 or $75 for a speed indicator which is in the experimental stage?

$25 buys a perfected JONES SPEEDOMETER

Eight years experience has brought the Jones to a point where it is the acknowledged standard of the world—the best speed indicator on the market. Jones is the pioneer; it is the only instrument ever awarded a Gold Medal for accuracy and all-round reliability. The Jones at $25.00 actually excells instruments made by other manufacturers for $40 and $75, which are still in the experimental stage!

Write for "The Speedometer," a magazine devoted to speed subjects, and the Special Speed Issue of "The Evening Bulletin," of particular interest to all motorists.

JONES SPEEDOMETER, 76th St. and Broadway New York

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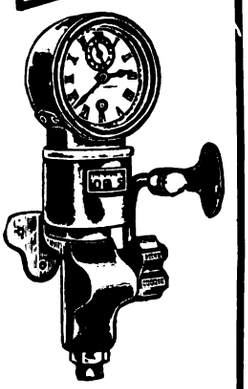
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When a manufacturer is willing to send his product to anyone, anywhere, for 30 days—with no deposit, no agreement to buy, no promise to do anything except give that product a fair trial—he must have more than ordinary confidence in his article. In order for him to have that confidence he must have a most extraordinary product.

That's what we do. We'll send an Auto-Meter to any automobile owner in the country—with no deposit, no agreement, no promise to do anything but put it on his car and give it a fair trial. It doesn't matter whether he has another make of speed indicator already on the car or not. Indeed, for the sake of comparison, we hope he has. We will abide by the decision—for he will always keep the indicator that tells the truth. We claim for the Auto-Meter that it is the only one of which "the dial never lies." We believe that the instrument itself is the most eloquent salesman we have—we're willing to let it do our talking. Send to-day—just tell us what make and model of car you have—size of tires, etc.,—and we will send you an Auto-Meter.



Is Right
Stays Right
Accurate At All Speeds

Warner Instrument Co.

Factory and Main Office,
262 Wheeler Ave., Beloit, Wis.

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New York, 1902 Broadway; Boston, 925 Boylston St.; **Philidelphia,** corner Broad and Race; Pittsburg, 3432 Forbes St.; **Cleveland, 2062** Euclid Ave.; Buffalo, 732 Main St.; Detroit, 239 **Jefferson Ave.**; Chicago, 1305 Michigan Ave.; Indianapolis, 330-½ **N. Illinois St.**; St. Louis, 3823 Olive St.; San Francisco, 550 Golden **Gate Ave.**; Los Angeles, 1040 S. Main St.

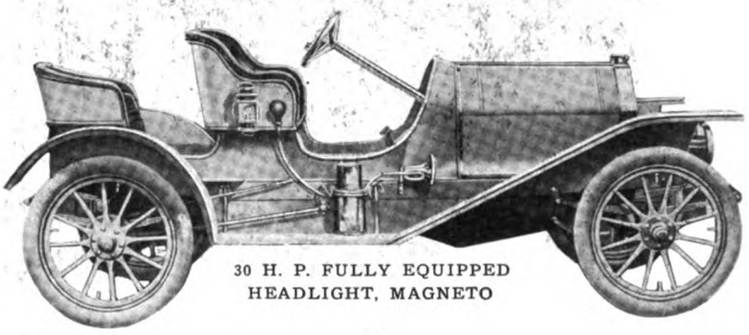
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1909 Overland LINE

The Most Complete in America

MODEL 30

Single Rumble	$1,250
Double Bucket	1,300
Coupe	1,650



30 H. P. FULLY EQUIPPED
HEADLIGHT, MAGNETO

MODEL 32

Single Rumble	$1,500
Double Bucket	1,500
4-passenger Toy Tonneau	1,500
5-passenger Tourist	1,500
Coupe	1,900



30 H. P. FULLY EQUIPPED
HEADLIGHT, MAGNETO

MODEL 34

Single Rumble	$2,000
Double Bucket	2,000
4-passenger Toy Tonneau	2,000
5-passenger Tourist	2,000
Coupe	2,400



35 H. P. FULLY EQUIPPED
HEADLIGHT, MAGNETO

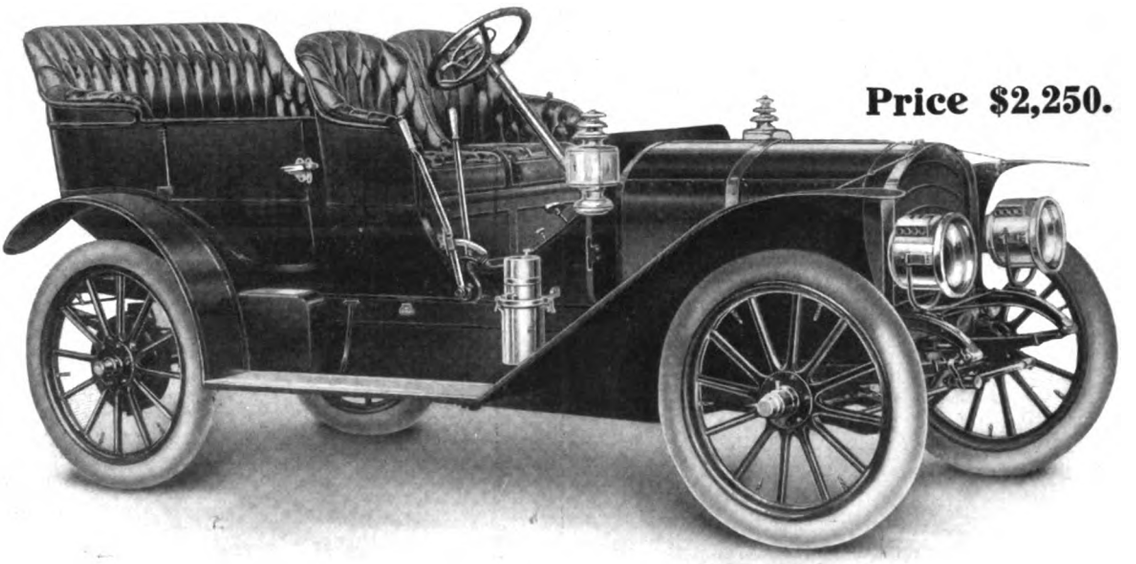
Write for Catalogue to

OVERLAND AUTOMOBILE COMPANY

INDIANAPCLIS, INDIANA

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Rambler



Price $2,250.

THE ADVANTAGES OF THE OFFSET CRANK SHAFT

Here is a simple explanation of the offset crank shaft, the great power developing feature of the Rambler.

Notice a man about to mount a bicycle. He always adjusts the pedal in that position where it will receive to best advantage his full weight on the first downward stroke. The best position for the pedal is just slightly forward of the center of the crank shaft on the bicycle. If he mounted when the pedal was directly over the center of the crank shaft, his weight would fall directly on the bearings and the first downward stroke would be retarded and, therefore, weak.

Now imagine the man's leg as the piston of an automobile engine; the pedal of the bicycle as the crank pin and the crank shaft of the bicycle as the crank shaft of the engine. In the ordinary engine the crank pin and piston (the pedal and the man's leg) are directly over the dead center and until the crank passes the turning point all effort is wasted. Thus, when the explosion occurs, the greatest force falls upon the bearings.

In the Rambler engine at the instant the explosion occurs above the piston the crank pin has moved past the dead center; the crank shaft is in a position to receive the full pressure and turns without friction. Consequently there is no side thrust of the piston and wear on the cylinder walls is thus saved.

Try this Rambler on the hills and notice how steadily and powerfully it pulls when running under load.

Tell our nearest representative to call at your home and take you to your place of business in a Rambler.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco.

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, September 17, 1908. No. 25

MATHESON FORMS SALES COMPANY

Separates Manufacturing and Marketing Departments—Matheson Himself to Direct Sales from New York.

The Matheson Automobile Co. is the style of a new company with $150,000 capital, which was organized on Saturday last to take over and market the product of the Matheson Motor Car Co.'s factory at Wilkes-Barre, Pa. It will be entirely independent of the manufacturing company and will have entire control of sales and agencies.

Arrangements have been made for desirable salesrooms on Broadway from which point the company will market its cars in Greater New York and distribute throughout the country. C. W. Matheson, president of the manufacturing company, who at present is residing in Wilkes-Barre, Pa., will remove to New York and there devote his time exclusively to the marketing of Matheson cars.

The entire capital stock of $150,000 of the selling company has been subscribed principally by bankers and business men of Wilkes-Barre; and, as the manufacturing company simultaneously arranged for a bond issue of $200,000, there will be $350,000 additional capital at the command of the producers of the Matheson car.

Contemporaneous with the announcement of these new arrangements, it was made known that a shaft-driven car listing at $3,000 will be added to the Matheson line for 1909. The present high priced chain geared models at $5,000 and $5,500 will be continued.

The mechanical end of the Matheson company will be in charge of L. C. Kenen, who just has been installed as designer and chief engineer. Kenen obtained his experience in the Renault, Darracq, Clement and Richard-Brazier factories in Europe.

The Matheson company will enter a car in the Vanderbilt cup race; it will be completed in time to be "tried out" in the Parkway Sweepstakes event on October 10. In fact, the Matheson people say it is their intention to play a conspicuous part in competitive events generally.

Bacon Becomes Haynes Sales Manager.

Richard Bacon, Jr., for the past three years western manager of Cleveland Motor Car Co., has been appointed sales manager for Haynes Automobile Co., Kokomo, Ind. Bacon has been identified with the automobile industry for a long time and is also an old bicycle man, having been engaged with the Pope Mfg. Co. for many years. C. B. Warren, whom Bacon succeeds, will, on October 1st, take charge of all territory west of Salt Lake City for the F. B. Stearns Co. He will establish headquarters in San Francisco.

Neustadt Disposes of His Interests.

J. H. Neustadt, one of the Western automobile pioneers, has sold his controlling interest in the Neustadt Automobile & Supply Co., St. Louis, to Dr. E. L. Epperson, of that city. Associated with the doctor are F. J. Tecklenberg and A. B. Schultz, assistant secretary of the Vendeventer Trust Co. Dr. Epperson, who has been identified with several other commercial enterprises, will continue the Neustadt business on its old lines.

Wagon Manufacturer to Make Motor Cars.

E. D. Etnyre, of Etnyre & Co., Oregon, Ill., an extensive manufacturer of sprinkling wagons, is preparing to engage in the production of motor cars. His wagon plant is to be enlarged to three times its present size in order to accommodate the new business. The building operations are due to commence this week. The car that will be made will be one of moderate cost.

Several Pope Receivers are Discharged.

Having liquidated affairs within those jurisdictions, the receivers of the Pope Mfg. Co. in Illinois and in the Southern District of New York, have been discharged by the courts. The receivers of the Pope Motor Car Co. for Southern New York also have been discharged.

M. A. M. WILL EXHIBIT AT CHICAGO

Accessory Association Accepts Offer of Five Cents Extra—Allotments of Space to be Made October 7th.

The Motor and Accessory Manufacturers, Inc., will be officially represented at the Chicago show, February 6-13. The offer of the National Association of Automobile Manufacturers to increase the rebate to M. A. M. members from 15 to 20 cents per foot has been accepted by the officers of the accessory organization.

The latter, as will be remembered, resolved to refrain from exhibiting at Chicago, unless better terms for space were granted; the N. A. A. M. met this view to the extent of tendering an extra 5 cents per foot rebate, setting September 10th as the limit for its acceptance or rejection. Its acceptance removes the only obstacle in sight and as a result, the accessory exhibits will be as numerous and as prominent as in previous years.

The prospectus and rules for the Chicago show made their appearance this week. The rules are substantially the same as heretofore. The allotment of space will be made at the N. A. A. M. offices in New York on October 7th. The show, as usual, will occupy the Coliseum, the Coliseum Annex and First Regiment Armory. The admission fee will be 50 cents, except on the Wednesday of show week which will be "dollar day." Special tickets in lots of 300 will be sold to exhibitors at half price and a special form of invitation ticket will be sold in any quantities for 50 cents each.

Willis Purchases Staley's Interest.

Fred I. Willis, secretary and treasurer of that long established jobbing house, the H. T. Hearsey Vehicle Co., Indianapolis, Ind., has purchased the interests of Frank M. Staley, vice-president of the concern. Willis's purchase has carried with it a change in the title of the company. Hereafter it will be styled the Hearsey-Willis Co.

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In the Retail World.

Louis De Stwolinski and James Hugus have opened a garage on Sast Wall street, Fort Scott, Kan. Both are experienced machinists.

The firm of Ranger & Barrett, 308 Tenth street, South, Minneapolis, has dissolved, Barrett retiring. The business will be continued as the Ranger Auto Co.

Edward Rabenau has disposed of the Rabenau Auto Garage in Iowa City, Iowa, to E. R. Thatcher, of Charlotte, Mich. The latter is an experienced automobile man.

For the Stoddard-Dayton Automobile Co., of Minneapolis, Minn., a large brick garage is being built at 907 Hennepin avenue. Its location places it in the semi-residence section, which is reluctantly giving way to business.

Theodore S. Glover, William C. Foote and Stuart Young have constituted themselves an automobile firm in Norwalk, Conn. They have taken the Wright shops at North Main and Union streets and will start operations immediately.

The Bullock-Goodwin Co., of Biddeford, Me., has leased a local disused carriage factory and will convert it into a modern garage. The building is to be remodeled, and a store and salesroom for cars and accessories will be a feature.

The Buick Motor Co. has opened a branch in Cleveland. A five years lease has been taken by the company on two store rooms in the Dodge building at Euclid avenue and Seventeenth street and salesrooms are being fitted up in a lavish fashion.

The Hopkinson Automobile Co., of Madison, Wis., is spending $12,000 on a new garage on East Doty street. The building when completed will have as large a floor space as any other garage in the state and will contain every modern equipment.

Edward H. Meinders, who has for 14 years been the leading bicycle dealer of Piqua, O., has leased a large building where, in addition to his bicycle business he will conduct a garage and automobile salesroom. The garage will include a repair shop.

Messer Reports Nebraska Outlook Good.

"The outlook for the motor car trade in Nebraska is as bright as the noon-day sun," is the way George E. Messer, the Franklin traveler in that State describes the situation. "The people are all optimistic and prosperous. The crops are good and I never found conditions in any section of the country so encouraging."

Clark, Experimenting, Seeks Relief.

W. E. Clark, former manager of the Deere-Clark Motor Car Co., has equipped a street car with a gasolene engine, and sees large possibilities in that direction. He is carrying on his experiments at Paris, Ill.

Meanwhile, and as a result of his expensive connection with the Deere-Clark enterprise, Clark has filed a petition in bankruptcy. He places his liabilities at $50,000 and states that his only assets, clothing and personal effects, valued at $50, are exempt. His chief creditors are the banks in Rock Island and Moline.

E. V. Receivers Render August Report.

According to the report of the receivers of Electric Vehicle Co., Hartford, for August, as filed in the Connecticut Superior Court, they had on hand on the last day of that month the sum of $218,417. The disbursements during the month totaled $45,483, the largest single item being $28,002, which was paid to George B. Selden. The report in full is as follows:

Charges on account and cash sales	$20,231.00
Purchases on account	6,866.66
Cash	459,40
	$7,326.06

Cash Statement.

Receipts.

Cash on hand Aug. 1, 1908	$242,770.23
Cash collected on E. V. acct	119.96
Cash collected on receivers' account	20,866.87
Selden royalty	143.71
	$263,900.77

Disbursements.

Pay roll	$12,663.47
Traveling expenses	125.00
Purchasing creditors	3,619.39
Freight and expenses	172.25
Petty cash	459.40
Telegraph and telephone	175.34
Storage	75.00
G. B. Selden	28,002.00
A. L. A. M.	50.36
Licenses	118.00
Pub. Exh. Exp.	23.00
	$45,483.21
Cash receipts	$263,900.71
Cash disbursements	45,483.21
Balance on hand Sept. 1	$218,417.56

Pullman Cars Pay a Profit.

At the annual meeting of the York Motor Car Co., York, Pa., on Thursday last, a 6 per cent. dividend was declared on the $100,000 capitalization, and these officers were elected: President, S. E. Bailey, Philadelphia; vice-president, T. C. O'Connor, New York; secretary and treasurer, Oscar Stezenso, New York; general manager, James A. Kline, York, Pa. The company expects to double its output of Pullman cars for 1909, when two new models will be marketed—a 30 horsepower touring car at $2,000, and a 20 horsepower runabout at $1,500. All the old models will be continued, save the 20 horsepower touring car.

Stewart Invades New York Market.

The Stewart & Clark Mfg. Co., of Chicago, has established its New York branch in the Motor Mart, 1878 Broadway. A large stock of the Stewart speedometers will be carried, the branch including also facilities for installing the instruments on cars within the premises.

The Week's Incorporations.

Philadelphia, Pa.—Penn Motor Car Co., The, under Delaware laws, with $10,000 capital.

Louisville, Ky.—Louisville Taxicabs Co., The, under Kentucky laws, with $5,000 capital; to operate taximeter cabs. Corporators—John E. Roche, W. G. Coldewey and L. K. Delph.

Waldron, Ill.—Waldron Runabout Mfg. Co., The, under Illinois laws, with $50,000 capital; to manufacture automobiles and accessories. Corporators—E. O. Parker, D. J. Lewis and C. M. Marshall.

Camden, N. J.—Auto Accessories Co., The, under New Jersey laws, with $10,000 capital; to manufacture and deal in automobiles. Corporators—Frank R. Hansell, William F. Erdell and I. C. Clow.

New York City, N. Y.—La Buire Import Co., under New York laws, with $5,000 capital; to deal in automobiles. Corporators—Isaac H. Walker, William M. Walker and Pauline D. Walker, Bayville, L. I.

New York City, N. Y.—Apthrop Motor Car Co., under New York laws, with $50,000 capital. Corporators—M. Taliaferro Lordan and E. Libby, 115 Broadway, New York City; Louis Rosenberg, 50 Pine street, New York City.

Buffalo, N. Y.—Densmore Co., The, under New York laws, with $15,000 capital; to conduct a general automobile business. Corporators—William R. Densmore, Buffalo, N. Y.; Fred Densmore and Frank Sturtevant, Erie, Pa.

Washington, D. C.—Capitol Auto Sight-Seeing Co. (Inc.), with $5,000 to $25,000 capital; to buy, sell and hire automobiles. Corporators—William W. Anderson and Thomas W. Buckley, Washington, D. C.; C. W. Sprague, Philadelphia.

Motor Truck Designed for Varied Use.

The Wisconsin Automobile Supply Co., Two Rivers, Wis., is reported to have finished a motor truck of such new and original design that it will erect a plant at that point and engage in the manufacture of the vehicle on "an extensive scale." It is stated that the vehicle may be employed not only as a truck, but its engine "may be utilized for driving a saw, feed cutter, pump or other machinery."

Ludington "Gives up" for a Factory.

O. A. Starke and William Roth are reported as having raised $75,000 of the $100,000 necessary to bring an automobile factory to Ludington, Mich. The local board of trade has been conducting the negotiations with the promoters, whose names are not given.

Warner Opens Los Angeles Branch.

The Warner Instrument Co. has established a branch in Los Angeles, Cal. It is located at Twelfth and Olive streets.

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ANTI-CHAIN ORDINANCE IS UPSET

New York Supreme Court Declares Unconstitutional Park Rule Forbidding Chains on Tires—Text of Decision.

An important victory was won by the Weed Chain Tire Grip Co., of New York City, this week over the ordinance under which the Commissioner of Parks assumed the power to prohibit the use of tire chains by automobiles on the park roadways, when Justice Davis, in a special term of the Supreme Court, on Tuesday handed down a decision declaring the ordinance unconstitutional. The decision is not only of local effect in restoring to motor car users in New York City their right to use tire chains in the parks, but will have an influence in checking a tendency on the part of park authorities in other cities to emulate the example of the New York park commissioner in barring chains from the park roads.

The case in which the decision was developed was that of Edward Anderson, who was arrested on March 28th last, charged with driving a car in Central Park, near Seventy-second street, with chains on the rear tires. Anderson was convicted, and the matter came before the Supreme Court later on a writ of habeas corpus sworn out by Anderson, backed by the Weed company, who demanded his release from jail on the ground that the ordinance was unconstitutional. Justice Davis upholds Anderson's contention, and points out that the Commissioner is given too arbitrary powers in deciding who may or may not use chains and in prohibiting chains and not other types of non-skid devices.

The ordinance, which has been vigorously opposed by the Weed company and by automobilists generally from the time that it went into effect—December 13, 1907—had its origin as a rule of the Board of Parks, and by virtue of section 610 of the Charter, became an ordinance through the filing of a certified copy of the rule with the city clerk. It reads as follows:

"No automobile or horseless or other vehicle wearing chains over the tires of their wheels shall enter the public parks or traffic roads under the jurisdiction of the Board of Parks without permission of the commissioner having jurisdiction."

In the course of his decision Justice Davis says:

"It will be observed that the ordinance confers upon the Commissioner the power to allow some vehicles to use chains while denying permission to others. No restriction is placed upon his action in this respect and he is bound by no rule. The owner against whom such discrimination is made has no redress. He must submit without appeal to the arbitrary denial of a privilege which others of his class are allowed to enjoy through the favor of the Commissioner."

The Court also says in pointing out the defects in the ordinance:

"What claims are to be permitted and what prohibited under this ordinance, what individuals are to be favored and who are to be denied the right to enter the parks, depends upon the mere will of the Commissioner. It is a vital defect in the ordinance that it contains no provision guaranteeing uniformity in its enforcement. No rule or principle is provided to secure its impartial execution.

"Inequality," adds the Court, "in its enforcement is thus not only possible, but probable, and so it fails to insure equal protection to all persons similarly situated, and for this reason is unconstitutional. . . . . Further analysis of this ordinance serves only to emphasize its unconstitutionality. The evidence shows that there are several kinds of anti-skidding equipments in common use, but the chain is the only one condemned by the ordinance. Why the owners of the chain device should be put in one class and those using the other devices in another and exempt class is not at all clear. All of these various methods of preventing skidding are equally bad for the roadbeds so far as we can judge from an examination of the exhibits, but there is nothing in the evidence to warrant the conclusion that the chain is more injurious than the other methods. Indeed, one fails to discover any reasonable basis or principle whatever justifying the placing of the chain method in a prohibited class by itself.

"It follows, therefore, that the ordinance makes an unlawful discrimination against those who use chains as part of their vehicle's equipment. All owners of vehicles equipped with an anti-skidding device—that is, all owners similarly situated are not equal before this law. Some may use the park highways freely, while others may not unless they get the Commissioner's permission. Thus the latter are denied the equal protection of the laws and their constitutional rights are invaded.

"It had been raining hard," the Court continues, in relation to Anderson's arrest, "and at this time it was drizzling and the roadbed was wet, muddy and slimy. Under these circumstances the relator was arrested and convicted. These chains were used by Anderson to prevent skidding. It appears from the testimony before the learned magistrate that the automobile is practically useless and really dangerous under these circumstances unless some kind of anti-skidding device is used on its rear wheels."

Jeffery Again Adds to His Plant.

The seventh annual addition to the Rambler factory at Kenosha, Wis., is about to be made by Thomas B. Jeffery & Co. Ground is being broken for a solid concrete building 257 feet by 150 feet, making a total of 38,500 square feet of floor space to be added. The new building will be used by the final test department. Every year of the past seven has seen some large addition to what the Rambler people now claim is the largest automobile factory in the world.

Quinby to Sell Cars in New York.

J. N. Quinby & Co., the Newark (N. J.) body builders, are preparing to open a salesroom in New York and engage more actively in the sale of complete cars. To that end they have taken the agency for the Pennsylvania car for northern New Jersey, New York City and vicinity; their initial order calls for 150 cars.

CHAIRMAN POPE ON RIM SITUATION

Head of A. L. A. M. Tire Committee Explains Its Attitude—Says Final Action has not been Taken.

The doubt and confusion existing regarding the rim situation, has induced A. L. Pope, chairman of the Association of Licensed Automobile Manufacturers' tire committee, to issue a full statement bearing on the subject.

"It is quite true that the Mechanical Branch of the Licensed Association has given much time and thought for a year and more, to the question of a uniform design that could be universally used by those desiring quick detachable rims; in fact, by the beginning of August last they had selected from types which came to their attention, a form which at the time seemed to them to suit all requirements," he says.

"In order to bring about a definite adoption by the vehicle makers as represented by the several associations, if possible, of one type, the engineers expressed their approval of a form which was then before them. Such approval was a necessary step in the progress of standardization, and though an important step, was obviously entirely subject to the final adoption contingent upon other than mechanical questions.

"It is hardly to be expected that the Licensed Association as a body, with the far reaching influence that its actions necessarily have, would take precipitate action. They have not as yet taken any action specifically adopting any particular type of quick detachable rim.

"Interested parties may rest assured that the matter is receiving most thorough consideration and careful study, and that whatever the final action may be, the rim adopted will be the type most suitable from every standpoint that can be properly considered."

National Battery in New Hands.

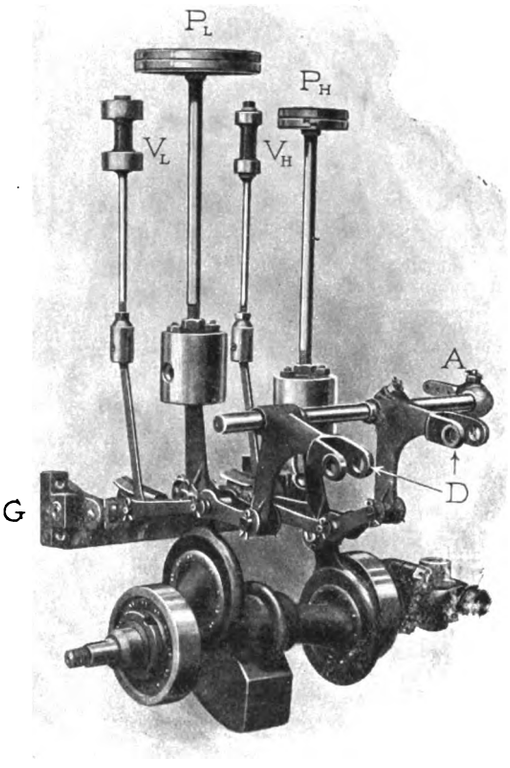
All claims against the National Battery Co., of Buffalo, which went into the hands of a receiver in February last, having been settled, the entire property has been restored to the stockholders. Full control of the reorganized company has been secured by the Cutler-Hammer Mfg. Co., of Milwaukee, well known as makers of electrical apparatus. The plant of the National Battery Co. will remain at Buffalo but the business will be conducted under new management and with ample capital.

Meteor Drops into Michigan Avenue.

The Meteor Motor Car Co., of Bettendorf, Iowa, has opened a branch at 1233 Michigan avenue, Chicago. The Meteor people began delivering their 1909 models thirty days ago.

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The Simplicity of
THE WHITE STEAM CAR



In the accompanying illustration are shown the working parts of the 1909 White steam engine. First of all will be noted the assembled crank-shaft which we showed, part by part, in last week's advertisement. Next we call attention to the high-pressure piston, P_H, and the low-pressure piston, P_L. Each stroke of each piston, up or down, is a working stroke. It will thus be seen that, as regards continuous application of power, the two-cylinder White engine is equivalent to an eight-cylinder gasolene engine of the usual four-cylinder type.

The valve construction of the White engine is of extreme simplicity. There is but one valve for each cylinder, V_H being the valve for the high-pressure cylinder and V_L the valve for the low-pressure cylinder. The valves are of the balanced type—that is, the steam pressure is the same on opposite sides. Therefore, the valves do not work against pressure and the power needed to operate them is practically nothing. The valves are driven from the connecting rods by means of levers, as shown in the illustration. The engine is reversed and the "cut off" is altered by simply tilting the guide G. Those who are familiar with the valve mechanism of the gasoline engine will appreciate that the White construction is by far the simpler.

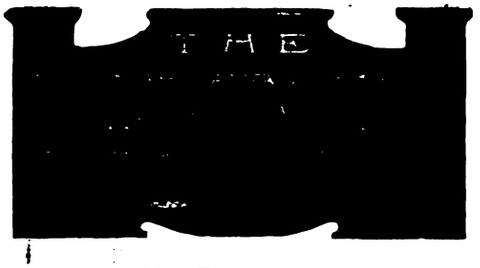
Write for circular containing details of the new White cars.

THE WHITE COMPANY

CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.
PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.
SAN FRANCISCO, 1460 Market St.
ATLANTA, 120-122 Marietta St.

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NEW YORK, SEPTEMBER 17, 1908.

The Subject of Crank Shafts.

In connection with the development of new models which are destined to figure on the market next year, it is noticeable that in not a few instances the refining process has been signalized by the use of larger crank shafts than heretofore and longer bearing surfaces. In itself this may not appear to be of material significance, even supposing it to occur in a large number of instances. But when it is considered that crank shaft trouble in the past has not been a common ailment with motors of the better class—indeed, that broken shafts or siezed bearings have been rather conspicuous by their absence, it is apparent that a deeper significance attaches to the change than would be the case were it supposed to indicate a desire on the part of the makers to rectify any purely apparent evil. Indeed, the reason back of the change is one which is actually of considerable importance and the concrete token of its appreciation is much to the credit of the more up-to-date class of designers.

Bearing in mind that the maker's effort is being concentrated chiefly upon the silencing of the motor and prolongation of its life at the present time, it is not difficult to find a clue to the secret behind the use of the enlarged crank shaft. That organ is forced to receive the full force of the explosions and to transmit and transform the motion imparted to it to the gears. It is thus perhaps the hardest worked element in the entire machine. Upon its rigidity depends in large measure the stability of the machine and its freedom from vibration—that most destructive of all evils. Buckling or yielding to torsional stresses introduces an element of recoil and so of vibration into the motor. Unless this is combatted properly the life of the bearings, as well as the safety of the part itself is greatly endangered.

The first significant development in the way of strengthening up the crank shaft came with the introduction of the high-grade, heat treated "automobile" steels, within a year or two. At first it was thought that this would bring about the desired effect, and because of the greater tenacity of the new materials as compared with those which they superceded, there was a tendency rather to decrease their size, or at least to keep it constant despite slight increases in power. Then a curious and wholly novel development of the close study to which the metals have been subjected was brought to light. It was found that the amplitude of vibrations was practically constant with the size of the piece, regardless of the quality of metal under test—always referring to the better grades of steel.

That is to say, a shaft revolving under combined twisting and cross stresses would tend to yield by about the same amount whether composed of the most popular high-grade metal or of the more ordinary grades such have been in use for some little time. This means in a word, that despite the advantages of the newer metals in the matter of ultimate strength and of endurance—which are unquestionable—they do not serve the expected purpose in reducing vibration. Hence it is necessary to increase diameters, and also, for the sake of increasing the support of the shafts and further safeguarding against the same evil, to increase the length of bearing surfaces.

This development is by no means a general one, but so far as may be determined, it is sufficiently marked to constitute what around show time is fondly termed a trend. Its results will be observable in improved running, freedom from jar and longer life of parts and in lower repair bills. For in reducing vibration and increasing the staunchness of the motor, the durability of all its parts must be corespondingly improved.

Importance of Cost Keeping.

Only by improved methods of construction and the application of all that is most modern in factory usage has it been possible for the present day automobile makers to produce the excellent types of car now on the market at costs which, all things considered, present a high value for the money invested. This modernizing of factory conditions requires the most rigid economy in every respect and the closest possible methods of accounting. At the same time, there are many plants in which that absolute barometer of internal conditions in the shop—the cost sheet, is rather lightly held, or at least regarded as a very modern and ornamental "frill" which is by no means an essential to the successful conduct of the business. In fact, many a maker is quite as much concerned in learning how much it costs to learn how much its costs to produce a given component, as he is in ascertaining the actual dollar's worth of the finished part after it has passed the various departments and come to rest on the shipping platform. Yet, as some one has said, the cost book should be the manufacturer's Bible and there is more virtue in the idea than at first may appear.

Where it is known exactly how much time is required for the production of every finished part, where the relative lengths of the various steps in its production are known, and where the time-keeping system is sufficiently exacting to determine automatically any discrepancies in the production of a long series of duplicate parts, the first step toward rapid and accurate manufacture has been taken. This knowledge permits a successful planning of the output from the beginning up to the conclusion of the season, instead of from its middle to a hurried close; it permits a successful "routing" of the product from one end of the plant to the other, and a close balancing of the various corelated steps so that no one department shall run ahead of or fall behind the others. Such a system once es-

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tablished and records made, preserves an automatic check on the occupation of every foreman and every mechanic and at once indicates any laxity or carelessness, or even pointing directly to the source of difficulty.

The money side of the cost system exercises in some respects a counter check on the time element, but it has its own peculiar importance in keeping track of sundry other items such as general and overhead expense, which, while nominally of only contingent value, yet are of tremendous significance in determining the swing of the balance sheet. The accurate accounting of the disposition of all materials, furnishing a check on wastes of stock as the time furnishes a check on the waste of possible effort, is readily looked after in this way, while the grand totals supply a constant inventory of the business in that particular department which is invaluable.

Many methods of cost accounting are too cumbersome and expensive to be of a really profitable nature. Others are too lax or inefficient, to be worth their cost. Still others of either type, may be too loosely administered to be of material benefit to the business. The cost department, however, must be considered as an essential element of any creative undertaking. As such, the first consideration governing it should be its efficiency. Following that its economy should be taken into account. It is in no sense an extravagance when properly proportioned to the enterprise which it supervises and if successfully carried through must earn its upkeep as truly as does any other department. All this is very well understood in many instances, but in others, and to a surprising degree, cost keeping still is regarded in the old-school light of a needless bit of luxury.

Hopelessness of Horsepower Formulae.

By the terms of a rather formidable algebraic expression the Society of Motor Manufacturers and Traders of Great Britain has at length arrived at a new method of expressing the probable power output of an internal combustion motor. Going a step further than has been done before, they also propose its use for purposes of competition as well as for the general purposes of a horsepower formula of every day utility. A comparison of the results which it furnishes and those supplied by the only formula recognized in this country, as well as the ratings assigned by the respective makers to their own products, makes it appear that the result is not altogether satisfactory, even though in many instances the ratings seem to be nearer the actual power of the motors than those derivable from either of the other two sources.

Even a hint at the abstruse contents of the voluminous report which accompanies the suggested formula is in itself instructive as showing something of the hopelessness of attempting to place all motors on the same footing by means of a common horsepower formula. The processes by which the designer is enabled to forecast the power of a motor are too complex to bear reduction to simple terms; the methods of calculating the theoretical power of an existing motor are similarly involved. The simple expression inevitably must be a compromise in which certain assumptions are covered by the use of constants. Such expressions may be made to serve a useful and enlightening purpose in comparing motors of similar design, but they cannot be relied upon when it comes to rating a number of machines of widely divergent characteristics which are to be run together in competition. Indeed, the invariable result of operating competitions on such a basis is to develop freak designs or at least which tend to become freakish as the formula exaggerates one feature of construction or another, or places a premium upon certain phases of design.

In addition to its absolutely unsatisfactory nature in general, then, the tendency of laying too much stress on competition formulas is unwholesome, since it tends to fetter the designer, confining his attention to certain narrow lines of development. It inclines toward stagnation, since the results of successful competition models are apt to be embodied in stock cars of later development, and utterly removes from the racing propaganda that useful feature which has been so much emphasized by its advocates in the past—its educational advantages.

Whatever may be the objections to the new formula in regard to its possible utility for either of its two purposes, it has however, this merit, that it in a measure reveals a great discrepancy in the older and simpler expression. Comparing the rated outputs of motors having the same cylinder diameters but different strokes, a considerable difference in power is observable. That the A. L. A. M. formula expresses correctly the average output of engines of given bore, designed along the best accepted lines in regard to piston speed and ratio of bore to stroke does not follow, as is apparent when a number of cases are considered. For a number of exceptions are discoverable in the cases of machines of unquestionable repute. At the same time, covering as it does, a majority of motors with fair approximation to what may be determined by calculation to be the correct power figure, it is beyond question the best expression of the sort that has yet been advanced. Certainly the proposed substitute cannot be expected to find ready acceptance because of the element of possible error introduced by the constant, and its suggested variation to suit different types of motor. That in itself is enough to condemn it. Why designers and builders will persist in adhering to elastic and variable methods of rating instead of establishing a rigid and inflexible basis such as piston displacement, is almost beyond comprehension.

COMING EVENTS

September 20, San Francisco, Cal.—Olympic Athletic Club's race meet at Tanforan Park.

September 20-30—Kansas City Automobile Club's endurance run, Kansas City, Mo., to Oklahoma City, Okla., and return.

September 23-24, New York City.—Dust trials, smokeless exhaust and brake tests, under auspices of New York Automobile Trade Association, Central Park.

September 23-24, Boston, Mass.—Bay State Automobile Association's 24 hours endurance run, Boston to Bretton Woods, N. H.

October 6-9, Chicago, Ill.—Chicago Motor Club's 1,000 miles reliability run.

October 7, Philadelphia, Pa.—Quaker City Motor Club's 200 miles road race, Fairmount Park.

October 10, Lond Island—Motor Parkway Sweepstakes.

October 17, Hartford, Conn.—Automobile Club of Hartford's hill climb, Avon Mountain.

October 24, Long Island.—Vanderbilt cup contest.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles outlaw race for foreign cars.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show in Madison Square Garden.

January 23-30, Philadelphia, Pa.—Philadelphia Automobile Trade Association's annual show.

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RECORD THAT GOES FOR NAUGHT

Winners of "Outlaw" 24 Hours Race Cover 1,107 Miles, Great Throng Attending —Roosevelt's Name Misused.

Ralph Mulford and Harry Cobe, driving a Continental-tired six-cylinder Lozier car rated at 50 horsepower, won the Motor Racing Association's "outlaw" 24 hours' race, which finished on the Brighton Beach track, near New York City, about 11 o'clock Saturday night last, 12th inst. Incidentally they set up a new 24 hours team record, covering in that time 1,107 miles, which, however, being made under outlaw auspices, unfortunately cannot be placed in the record tables—one of the many penalties of outlawry. Another Lozier car, manned by Michener and Lynch, finished in second position with 1,092 miles, and a Fiat car with Capra and Parker in charge, was third, with a total mileage of 1,074. Eight of the nine finishers had covered more than 900 miles each when the gun brought the contest to an end.

Due to the able assistance of the well-trained battery of metropolitan "auto-editors," who act as god-fathers to the outlaw Motor Racing Association, an immense crowd, variously estimated at from 15,000 to 20,000, witnessed the meet. Miles of advance publicity, lurid in detail, telling of the "bitter war" between the Motor Racing Association and the American Automobile Association—the former having promoted the meet without the formality of applying to the latter for a sanction—made it appear that there would be a pitched battle at the scene of the race meet. The public probably expected to see the belligerents pouring broadsides of shrapnel into each other, or at least a pitched battle of the fists.

Therefore, a goodly portion of the population of Greater New York and Hoboken fell all over themselves to get to the Brighton Beach track and see the expected fight. They came in such hordes that Tom Moore, the major domo of the affair, decided that the picking was too easy. He could not resist the itching palm and played fair (!) with the public by marking up the price of admission 50 cents and $1 early Friday evening and then when the tickets ran out, the promoters had to break open the ticket boxes and resell the bits of pasteboard to a lineup longer than wanted to see the two "Devils" on opening night. This occurred after Moore became greatly distressed by the sight of several gatekeepers accepting real money in lieu of tickets.

It had been given out before the meet that the governing body—the American Automobile Association—would suspend all drivers from future sanctioned contests if they participated in the unsanctioned, and therefore "outlaw" meet. At the eleventh hour, Louis Strang, who has won three sanctioned road races this year, grew nervous and "nervy," and applied for a special dispensation from the governing body. He wanted immunity; naturally, he didn't get it.

The banner of the Motor Racing Association and of "outlawry" was unfurled to the breezes at 3 o'clock Friday afternoon, when a card of short races was run, though under some difficulties. Naturally, it is a very "interesting" sight to see one car leading another around and around. That is what occurred in every competitive event. The first was a five miles race for gasolene cars and Ray Howard (Palmer-Singer), and F. J. Davis (Moon), breasted the tape. The "race" was a procession with Howard showing the way until the finish. Time, 5:11⅘. The second race at 10 miles for cars selling at $4,00 or over, also had the large number of two starters. J. B. Marquis (Stearns), won easily from George Schienick (Renault) in 10:51⅖.

The match between Ralph De Palma (Fiat), and R. C. Buckley, in the B. L. M. car that was built for the last Vanderbilt race, but which did not get as far as the starting point in the elimination, was all De Palma's from the start. He finished in 5:11⅘. The principal event of the afternoon had more than two starters, but only that many finishers. Rippingill (Allen-Kingston) had a mishap early in the race and a puncture put Ray Howard (Palmer-Singer) out of the running in the 37th mile. This left only Laurent Grosso (Stearns) and F. J. Davis (Moon) in the race and the former finished in 55:08, 23 seconds in front of his competitor.



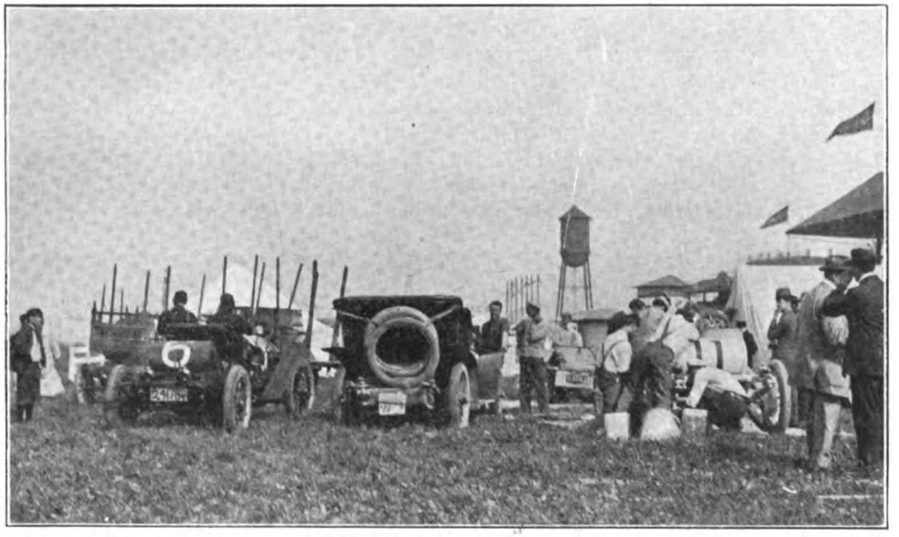
NIGHT SCENE DURING THE BRIGHTON BEACH 24 HOURS RACE

The old Brighton Beach track never held more people—even in its hey-dey of horse racing—than it did when the 24 hours race started at 8:30 o'clock Friday night. The grand and field stands were packed and jammed with humanity while all the available parking spaces were soon filled with cars.

The "outlaw" gentlemen stopped at nothing to attract a "gate." They went so far as to announce that President Roosevelt himself would start the race by telephone from Oyster Bay; and it did start when an alleged telephone message was received. The next afternoon a man who remotely resembles the President, was at the grounds and he was pointed out to inquirers as the Chief Executive. Of course, the announcement was a fraud pure and simple. Now that

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the Motor World fancied for a moment that the President would give prestige to an outlaw meet by lending it his presence or his name, but as a matter of form an inquiry was dispatched to Oyster Bay. As expected, it brought a prompt denial from Secretary Loeb. The President was not at the "outlaw" automobile meet and neither did he lend assistance by telephoning, or by authorizing the use of his name in connection with it.



SCENE IN THE SUPPLY CAMPS

Automobile racing at night is the same the world over. It is spectacular to see half a dozen or more cars rushing around a circular track, which is almost obscured by darkness except for the line of lights dotting the infield fence. All the spectator sees of a car on the backstretch is two calcium lights piercing a way through the wall of darkness. So far as the stage setting goes, the Brighton Beach 24 hours race last Friday and Saturday was no different from others that have been held except that perhaps the pace was a bit faster. There were the camps of the competitors in the infield, with attendants scurrying about with supplies for the car, and refreshment for the tired drivers, the eager but sleepy crowd in the stands always waiting like vultures for a killing. Happily there was none. The nearest semblance to it and one of the few thrills of the meet was in the second hour, when Sartori in the Renault car, plunged through the inside fence at the beginning of the turn out of the backstretch.

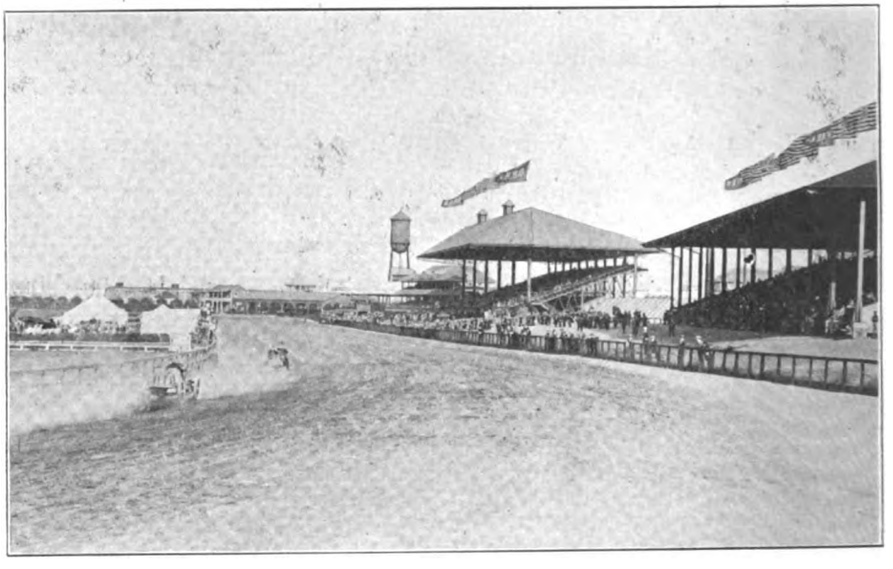
Sartori enjoys the distinction of having put as many cars out of races through his own recklessness as any other driver, but for once, he couldn't very well help it. The little S. P. O., a stripped taxicab, was going slowly around the turn when Sartori came rushing up from behind just as it closed in on the pole. Sartori jammed on his brakes and tried to squeeze through on the pole, but an unfriendly fence post interferred. The car upset and Sartori and his mechanic, Gourand, were thrown out. The driver had several ribs, his shoulder blade and right arm broken, besides contusions, but the mechanic got off with less injury to himself. Both men were taken to the Coney Island hospital, and later removed to a private sanitarium in New York, where both are reported as doing well..

At the ending of the first hour Michener and Lynch, in the four-cylinder Lozier, led the other Lozier by a short distance, each having covered 48 miles. The Fiat, Allen-Kingston, Stearns and Renault cars were fighting it out for third place with 46 miles apiece, while the Simplex car, driven by Robertson and Lescault, had reeled off 45 miles. The Thomas, Acme, S. P. O., and Garford cars were some distance behind. There was a change in the second hour when Michener and Lynch, twice lapped their team mate. By good driving Robertson and Lescault (Simplex), and Rippingill and De Palma (Allen-Kingston) brought their cars up to the Lozier, each having 101 miles. It was shortly after the second hour that Sartori met with his accident.

Robertson's run of 56 miles in the second hour was the feature of the early part of the race and it enabled him to nose out in front at the ending of the third hour, with a score of 146 miles. At that time Rippingill, in the Allen-Kingston, was in second place with 143 miles, and Michener's and Lynch's Lozier had covered 142 miles. The Fiat was third and the other Lozier fourth. Robertson maintained the lead until the end of six hours, when a cracked cylinder kept his car off the track for more than two hours while it was being replaced. At the finish of the 6th hour he had covered 294 miles. The Allen-Kingston was then second, with 284 miles, and the two Loziers, the Fiat and the Stearns a few miles behind in the order named.

The mishap to the Simplex gave the other cars an opportunity to change positions and the Allen-Kingston assumed the lead, which it held until after the 9th hour, the score for the leader being 423 miles. It succumbed at that time and Mulford (Lozier) and Capra (Fiat) stepped into first and second positions. The Lozier was 8 miles ahead of the old record and the Fiat five miles.

This order was maintained at the ending of the 11th hour, but Mulford's Lozier had again caught its pace and was pushing the Fiat hard for second place. For three hours more there was no change, but Mulford was drawing up on Capra all the time. In the 16th hour the Fiat had tire trouble and stopped for some time, which enabled the second Lozier to scramble into second place, behind its factory mate. The Fiat car had been having trouble all night with its lamps and had to stop many times to have them relighted. At the 17th hour Mulford had 22 miles lead on his team mate, who drew a lead of 10 miles on the



GENERAL VIEW OF TRACK AND STANDS

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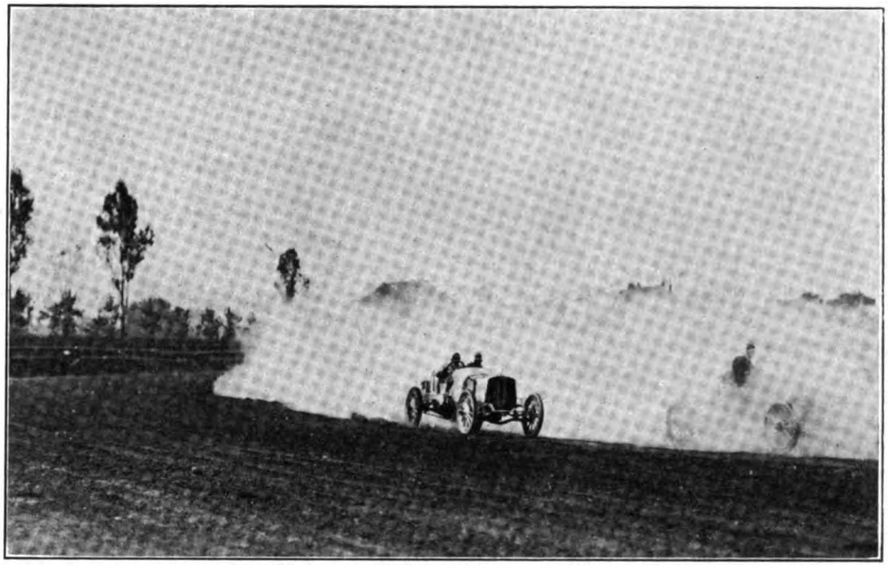
Fiat. The Stearns and Allen-Kingston were fighting it out 25 miles behind the Fiat.

Robertson's great driving on Saturday night, to make up the lost distance, was the one big feature of the race. In the course of it he covered 105 miles in two hours, miles after miles being rolled off in 63 and 64 seconds. The crowd was quick to apreciate Robertson's efforts and he got a cheer each time he passed the stands. He cut down the lead of Mulford by 20 miles and gained on all the others. Mulford still led his team mate by 14 miles although he had to stop for a time on account of tire trouble and only made 34 miles in the 17th hour. Michener's Lozier and the Fiat were in the same relative positions while the Stearns had pulled up even with the Allen-Kingston in fourth place.

The closing hours did not result in any material change. Drivers were replaced in order to save the cracks for the final hour, and Lescault, who had been having trouble with his eyes, lost several miles which Robertson later had to gain. Mulford's Lozier passed the 1,000 miles mark in the 22d hour, the other Lozier reaching that distance a few minutes before the ending of the hour. The leading Lozier covered 46 miles in the 23d hour and made one mile more than that in the last hour. Robertson made two miles more in the last hour than did De Palma and thereby landed his car in fifth position almost at the last minute.

Although the splendid mileage made by the winning car is a record for 24 hours, in that time 1,107 miles having been covered against the old record of 1,079 miles, as stated, it cannot, of course, properly stand as a record, as it was made at an unsanctioned meet. Also the 24 hours were made in two instalments as the race was stopped more than two hours Saturday afternoon to allow the track to be scraped and rolled. The track was supposed to have been rendered dustless, but after the first few hours, it was as bad as an unimproved country road.

Just what is the 24 hours record no one seems to know and there also is held to be a distinction between one-man records and those made where the drivers alternate. The National car is believed to hold the record made with one man driving, while the Brighton Beach cars had two drivers. The records for this kind of a race were gotten inside of from the fourth hour, the distance for five hours being 245 miles by Robertson, agaainst the old record of 237 miles. Robertson led at the ending of the sixth hour, covering 294 miles, eight miles better than the revious record. DePalma led for the 7th, 8th and 9th hours, when Mulford forged ahead and from then on was never headed, so that the records for the succeeding hours go to his credit. At 12 hours he had covered 565 miles, 12 miles better than the previous two-man figures, and at 18 hours he was 23 miles ahead when he covered 849 miles. The previous record for 24 hours is given at 1,079 miles, so that Mulford added 28 miles to the score when he reeled off 1,107 miles in a chronological day.



SHOWING HOW THE DUST PREVENTIVE PERFORMED ITS WORK

Having found how easy it is to "get away with it," the Motor Racing Association intends to get another slice of the public's money by holding a second 24 hours race at Brighton Beach track on Friday and Saturday, October 2 and 3. As the outlaws do not think two drivers per car are sufficient, they propose to permit another one.

Paul La Croix's challenge to any car beating the old Renault 24 hours record to meet one of his Renault cars in a matched race, has been accepted by Charles A. Singer. Basing his claim upon the fact that his Simplex car ran ahead of record time until it cracked a cylinder, Mr. Singer believes the challenge ought to apply to the Simplex.

SUMMARY OF THE BRIGHTON BEACH 24 HOURS RACE.

	Driver and Car.	1	2	3	4	5	6	7	8	9	10	11	12
1	Mulford and Cobe, Lozier	48	99	137	185	232	279	320	371	417	465	515	565
2	Michener and Lynch, Lozier	48	101	142	191	239	275	312	359	406	458	504	552
3	Capra and Parker, Fiat	46	99	139	184	230	273	312	364	411	462	506	556
4	Laurent and Marquis, Stearns	46	97	136	184	231	270	313	353	398	433	474	522
5	Robertson and Lescault, Simplex	45	101	146	193	245	294	296	296	310	361	413	460
6	Rippigill and De Palma, A-K	46	101	143	192	235	284	332	380	423	430	478	522
7	Strang and Rodgers, Acme	29	42	65	108	157	194	240	289	332	375	418	465
8	Roberts and Martin, Thomas	40	86	122	162	203	237	278	316	356	396	437	478
9	Kjeldsen and Juhasz, S. P. O	36	55	55	55	55	60	98	130	166	202	243	278
	Vantine and Daty, Garford	33	33	41	54	83	83	83	83	83	83	93	138
	Sartori and Clement, Renault	45	64	Ran into fence and retired.									

	Driver and Car.	13	14	15	16	17	18	19	20	21	22	23	24
1	Mulford and Cobe, Lozier	616	664	706	755	803	849	883	920	972	1,016	1,060	1,107
2	Michener and Lynch, Lozier	601	646	691	740	781	825	870	914	960	1,005	1,048	1,092
3	Capra and Parker, Fiat	605	650	693	724	771	815	862	907	950	993	1,039	1,074
4	Laurent and Marquis, Stearns	570	620	659	701	746	784	835	880	923	966	1,008	1,050
5	Robertson and Lescault, Simplex	505	553	599	647	695	746	800	846	892	938	982	1,029
6	Rippigill and De Palma, A-K	570	619	657	699	745	789	835	865	906	932	982	1,027
7	Strang and Rodgers, Acme	514	557	591	631	676	703	749	792	835	879	927	976
8	Roberts and Martin, Thomas	518	561	605	651	691	728	768	804	840	877	918	955
9	Kjeldsen and Juhasz, S. P. O	313	351	389	402	413	443	483	511	533	569	602	635
	Vantine and Daty, Garford	183	224	263	303	318	318	323	344	375	387	...	...
	Sartori and Clement, Renault												

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"TREATY OF PEACE" IS SIGNED

Compromisers Settle A. C. A.-A. A. A. Controversy, but not all Conditions are Made Public—Savannah's Pop-up.

The "war" is over—for the time being, at least. The Automobile Club of America has "saved its face" and the banners of all Europe, which it wrapped around itself and so nobly defended, now are fluttering proudly, if not patriotically, from its American flagstaffs. The American Automobile Association retains possession of the stars and stripes, which, however, are not fluttering quite so proudly as their friends had hoped.

As the result of gutta percha which had been inserted in several spinal columns, the compromisers and the peace-at-any-price men were able to bring the warring elements together and selected portions of the treaty of peace were made public late last evening. According to these terms the A. C. A. will have control of "international races" and the A. A. A. of national events. Each in turn will help the other to make successes, first of the A. A. A. Vanderbilt cup race and then of the A. C. A. Grand Prize race at Savannah. After this year, an "independent racing association" will take charge of both events, the Vanderbilt cup race becoming a national event.

The official announcement of the settlement of the disturbance is as follows:

"Conference committees representing the American Automobile Association and the Automobile Club of America, have for several days been negotiating a settlement of differences between these bodies. These committees finally reached a conclusion, which was ratified by the board of governors of the club a few days ago, and by the executive committee of the association at an adjourned meeting held to-day.

"The understanding disposes of the controversy and establishes friendly relations.

"It is agreed that the Automobile Club of America is the only American member of the International Association of Recognized Automobile Clubs, and that it is and shall be the only authority in America for the drafting of rules affecting and for the granting of sanctions for international races, and for the regulation of such races in this country. On the other hand, the matter of the sanction of and the formulation of rules for local and national races is agreed to be, as heretofore, in the sole power and jurisdiction of the Association. The two bodies agree to co-operate with each other in making the Vanderbilt cup race and the Savannah Grand Prize race successes. After the races of this year, the two cups are to be deeded to an independent racing association, and are to be contested for annually, the Grand Prize Cup as the international trophy, and the Vanderbilt cup as the national trophy. It is also agreed that the club shall not encourage other clubs to withdraw from the American Automobile Association.

"The essential points at issue between the two organizations have thus been settled and their co-operation in the future in all matters relating to the sport of automobile racing is assured."

These statements were signed by Robert P. Hooper and Charles T. Terry, representing the A. A. A., and Henry Sanderson and W. G. McAdoo, representing the A. C. A. None of these gentlemen previously had figured in racing affairs.

These statements, however, by no means represent the full text of the settlement.

It is generally understood that the conditions that have been withheld include a definition of "international races," and lacking knowledge on the point, it is not possible to discover whether or not the peace that has been arranged does not make for even greater future complications and controversies, which easily are possible if the mere entry of one or more foreign cars in an American event shill be held to constitute an international race. Making the Vanderbilt cup race a purely American event is a wise move and assures its continuance; for with the rapid disappearance of the foreign car from these shores, there also will disappear everything in the nature of what truly may be styled an international race.

The provision for the formation of an "independent racing association" to conduct the Vanderbilt and the Grand Prize races of the future is evidence of the sore straits to which the compromisers were reduced in order to reach an agreement. How, where or by whom the two-race association will be formed is a matter of interesting conjecture.

By those who profess to be in position to know, it is stated that the terms of peace as arranged also provide that the "outlaws" who had their hands in the Brighton Beach 24 hours race last week shall be "taken care of" and "let down easily."

None of those actually in position to know what transpired at the peace conferences will give any further information than that officially made public. Another and fuller official statement will be made within the next few days.

Early in the week gaiety was added to the situation by the A. C. A.'s "man Friday," the Savannah Automobile Club, which issued a call for a convention of clubs at Savannah in November at which a new national organization would be formed. It was known that the Savannah club was growing nervous over the poor prospects for the Grand Prize foreign car race, and whether its call was due to "nerves" and a desire to attract a crowd, or was inspired by the A. C. A., is not wholly clear; however, few seriously accepted its action. In fact, a Boston club man of prominence who was in New York last week, remarked that outside of the metropolis the whole controversy was viewed as a purely local affair; few outside of the big city, he stated, considered the Automobile Club of America as being worthy of more than local consideration and few cared what it did. A Philadelphia newspaper visitor said practically the same thing and added that if the A. A. A. temporized with the "outlaws" and did not give them a stern taste of discipline, he himself would take up cudgels against national body.

Ocean Boulevard Would be Unholy.

Disapproval of the contemplated $400,000 ocean-skirting boulevard in New Jersey, having its northern terminus with the parkway roads of New York City and its southern end in Philadelphia, has arisen in Ocean Grove, N. J., because of the prospect of automobiles and other vehicles passing through that holy place on Sundays. At a recent banquet of the ushers of the Ocean Grove auditorium, Bishop Wilson, of Philadelphia, declared that it was by no means right that such a boulevard should pass through Ocean Grove as the place had been closed to vehicles on Sundays for years and years, and if the New Jersey legislature should decide on the project, it should have enough respect for the local religious traditions to make the boulevard run far back of the town so that the Sabbath peace should not be disturbed.

Would Whistle Their Own Guilt.

Among the latest proposals for automatically curbing the speeding of Paris taximeter cabs, is that the vehicles be fitted with centrifugal siren whistles which will only come into action when a certain predetermined speed has been attained. The whistle would be installed and sealed under official supervision, and its sounding would quickly call attention to offenders. When the cabs would go outside the fortification limits, into the country, the law provides for the whistle's removal by the officials.

Motor Cars for Prayer Meetings.

Automobile prayer services constitute a Philadelphia innovation which will bring to that city the credit of evangelical enterprise, at least, despite all impressions as to the Quaker City's proverbial moderation of activity. At a conference of the Y. M. C. A. workers of Philadelphia it was decided that motor cars could be employed to good advantage in holding outdoor meetings at various points, and accordingly they will be used this fall.

Back Their Views with Real Money.

To show that its members are earnest in their desire for good roads and are willing to do their share to bring them about, the Automobile Club of Glens Falls, N. Y., at its last meeting voted $200 toward repairing the Glens Falls-Lake George State road. If further financial aid can be obtained the road will be put in exemplary condition.

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HANCOCK CAPTURES FOUR FIRSTS

Chicopee Man Proves the Biggest Winner on Wilbraham Mountain—Fast Going up a Measured Mile.

When the Springfield (Mass.) Automobile Club held its hill climb on Wilbraham Mountain, Friday last, 12th inst., algebra, trigonometry and slide rules did not have to be employed to determine the winners of the twenty events. Instead of calculating winners by formula, the car that made the fastest time in its class won without any further fol de rol or cube root pyrotechnics and the spectators, therefore, instantly were able to note the winners.

The afternoon saw many notable performances and sensational ascents, most of the honors going to the Stevens-Duryea and Knox cars, which were splendidly handled. Charles Basle in a 48 horsepower Knox scored the best time of the day in the event open to all gasolene cars, covering the mile in 1:08, while the Stevens-Duryea performed most astonishingly by winning first prize in every event in which they ran. This included four victories in competition, while a "Big Six" running in a field by itself with no others desiring to enter, scored the fastest time made in any strictly stock car event, 1:09⅘. Robinson, who drove this car, made a most thrilling ascent, skidding a great deal.

William Bourque, in a Knox "30" made second best time of the day, covering the measured up hill mile in 1:09⅗. In this class he beat L. F. N. Baldwin's Stanley steamer by a good margin. Robinson's Stevens tied with Bourque for third best time of the day, with a 1:09⅘ score, Robinson making that time in a stock chassis class and Bourque in an open event. Hancock did good work with Stevens-Duryea entries, scoring three firsts in the earlier trials, and E. Cameron won two of the light car events with a Cameron car.

To add to the day's sensations was a bad accident. P. J. Robinson had just made several good climbs and was making a supreme effort to outdo himself, when his car's outside wheels slewed and struck a large boulder on the roadside. The driver was thrown high into the air and landed among a clump of bushes on a rock pile. The car continued on its way for more than 100 yards, and hit two spectators before it turned turtle and smashed completely. Robinson sustained a compound fracture of the right leg, while the others were only slightly cut.

Apart from the cars, Stanley T. Kellogg, on a motorcycle, was the star of the afternoon. He flashed up the hill on a 7 horsepower Indian motorcycle in the great time of 1:03⅘, considerably faster than any of the automobiles.

It is estimated that between 5,000 and 6,000 persons were at the course, which was roped off and patrolled by Company H, of the Naval Brigade, and had numerous cars parked in the fields on each side. The price of parking space was 25 cents per person, and a good business was done.

The summaries:

Gasolene Cars, 40.1 to 60 Horsepower, Inclusive.

Driver.		H. P.	Time.
Robinson	Stev.-Duryea	51 1-6	1:10⅕

Open to Gasolene Cars, 24.1 to 40 Horsepower, Inclusive.

Hancock	Stev.-Duryea	36	1:22⅘
Dennison	Knox	30.05	1:35⅖
R. Burman	Buick	34.22	1:35⅗
Oliver Light	Chal-Detroit	40	1:35⅘
Bourque	Knox	38.8	1:37⅗
B. Bailey	Bailey Speedster		2:26⅕

Gasolene Cars 15.1 to 24 Horsepower Inclusive.

E. Cameron	Cameron	16	2:15⅕
R. Burman	Buick	22	2:14⅗

Gasolene Cars Selling for $850 or Less.

F. F. Cameron	Cameron	16	2:34⅕
W. E. Smith	Middleby		5:17⅕

Gasolene Cars Selling for $850 to $1,250 Inclusive.

R. Burman	Buick	22	2:12⅘
E. Cameron	Cameron	16	2:17
W. E. Smith	Middleby		3:41⅘

Gasolene Cars Selling for $1,251 to $2,000.

E. P. Blake	Jackson		2:01⅘
F. F. Cameron	Cameron	24	2:13⅕

Gasolene Cars Selling for $2,001 to $3,000.

Bourque	Knox	38.8	1:26⅗
Dennison	Knox	30.6	1:35⅖
Oliver Light	Chal-Detroit	40	1:47⅗
B. Bailey	Bailey Speedster		2:25⅗

Gasolene Cars Selling for $3,001 to $4,000.

Hancock	Stev.-Duryea	36	1:23⅗

Gasolene Cars Selling for $4,00 and Over.

Robinson	Stev.-Duryea	54.1	1:10

Gasolene Cars with Piston Area of 50 Square Inches and Under.

Ray Phelon	Atlas	34	2:34⅘
B. Bailey	Bailey Speedster.		4:00⅗

Gasolene Cars with Piston Area Over 50 Sq. In. and Under 65 Sq. In.

Dennison	Knox	30.06	1:40
E. Cameron	Cameron	24	2:11⅘
R. Burman	Buick	22	2:12⅗
B. Bailey	Bailey Speedster.	63.61	2:40

Gasolene Cars with Piston Area of Over 65 Sq. In. and Under 90 Sq. In.

Hancock	Stev.-Duryea	36	1:18⅗
O. Hedstrom.	Knox	38	1:28

Gasolene Cars with Piston Area of 90 Square Inches and Over.

Robinson	Stev.-Duryea	54.1	1:09⅘

Open to All Gasolene Cars.

Basle	Knox	48.8	1:08
Bourque	Knox	38.8	1:09⅘
Hancock	Stev.-Duryea	36	1:16⅕
Robinson	Stev.-Duryea	54.1	*

Open to All Gasolene Stock Cars.

Hancock	Stev.-Duryea	36	1:22
Dennison	Knox	30.06	1:36⅗

Club Event. Cars Owned by Members of the Automobile Club of Springfield. All Types and Motive Power.

H. Knudson	Stanley Str.	20	1:23⅘
O. Hedstrom.	Knox	38	1:39⅗

Record of Hill. Open to Cars of Any Types and Motive Power.

Bourque	Knox	30.06	1:09⅕
L. Baldwin	Stanley Str.		1:11⅗
Basle	Knox	48.8	1:12

Motorcycles with 30.5 Cubic Inches Cylinder Capacity and Under.

C. Gustafson	Indian	4	1:24⅘
S. T. Kellogg	Indian	4	1:29⅗
H. B. Lake	Indian	4	1:50

Motorcycles with 61 Cubic Inches Cylinder Capacity and Under.

S. T. Kellogg	Indian	7	1:03⅘
C. Gustafson	Indian	7	1:09⅗
H. B. Lake	Indian	7	1:13⅗
E. A. Shotwell.	N. S. U.	7	1:22⅘

Exhibition Mile on Motorcycle.

J. Derosier	Indian	7	1:11⅗

* Car overturned.

Will Start Endurance Run at Night.

Interest in the approaching 24 hours endurance contest from Boston to Bretton Woods, September 23-24, is on edge. The Bay State Automobile Association sent a car over the proposed route last week and from the report of the "Pathfinders," prospective entrants will not be deluded into the idea that this contest, which will penetrate the White Mountains, is to be a joy ride.

When the run was originally proposed, the roads were in much better condition that at present, and for this reason some changes have been adopted to make work easier for the drivers. There are very good roads on the first and last parts of the route as laid out at first, and under the original schedule these sections would have to be covered in daylight hours, while the bad sections would have to be traveled at night. The Bay State committee has decided therefore that such a plan would be unwise and is now arranging a time schedule in order that the good roads will be covered in the dark, allowing the drivers the benefit of the sunshine while tackling the many miles of bad highway between Ossipees and Concord, N. H. This will necessitate the run starting at night and it probably will leave Boston about 10 p. m., Thursday, September 23.

The total distance of the route outlined is 359 miles. In addition to the start and finish controls there will be intermediate checking stations at Rochester, Bretton Woods and Concord, N. H. To discourage speeding a pacemaker will precede the participants, starting 15 minutes ahead of them. Any contestant who attempts to pass this car if the latter is running on schedule, will be disqualified at once.

Athletic Club Promotes Sealed Bonnet.

"Sealed bonnet" contests went out of fashion some months ago when Joyous Widow hats and other styles of exclusive headgear came into vogue, but that form of test is to be revived. The Illinois Athletic Club expects to hold a contest of the sort from Chicago to Milwaukee during Thanksgiving week. The club has applied to the American Automobile Association for a sanction. The run is to be held in connection with a holiday gymkhana fest connection with a holiday gymkhana.

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SPLIT SPEED HONORS AT LATONIA

Oldfield Wins the Sweepstakes, but Christie Makes the Fastest Time—Two Days of Racing.

Three doctors and an undertaker lolled around the center of the Latonia (Ky.) track on Saturday and Sunday, September 12-13, while an automobile race meet was in progress. When questioned as to what they were there for, they replied, "for business." Their business, however, was dull, for no bad accidents occurred, and the undertaker had to go home to his wife without a single order for his latest fall stock styles.

The stars of the two days meet were Walter Christie, Barney Oldfield and Charles Soules, and records for the track were chipped off a few seconds. These three, in addition to other events, took a flyer at record trials on the first day of the meet and Walter Christie cut loose with his front-wheel drive creation and whizzed around the dusty mile oval in 57⅘ seconds, lowering the previous record for this track, held by Barney Oldfield, who set up 59⅗ as a mark last year. Oldfield made three attempts to beat the figure. He failed, however, the best he could do being 0:58. Soules also tried it, but missed widely, taking 1 minute 3 seconds to make a circuit.

In the first part of the three cornered sweepstakes (which was run on two days), Oldfield got his car working better than Christie's and won two heats in 1:06 and 1:11⅗, respectively. Christie and Oldfield each beat Soules without difficulty, and when these two came together, both made slower time; Christie's failure to make his car behave properly, giving Oldfield the victory in 1:11⅗.

A three miles event with only two entrants, J. K. Gilchrist and Charles Soules, was won by the latter in 3:28⅗. Soules also won the five miles novelty race, in which contestants had to take on and unload passengers. M. Mulhauser was second, and C. Conklin third. The time was 8:09⅕.

On Sunday, when the three-cornered sweepstakes race was resumed, Oldfield again was lucky, taking the first and third heats in 1:06⅖ and 1:04⅕. Christie won the second heat in 1:03⅕, but in the other two, his car seemed to fail him for speed. He was a disappointed driver when the race was over.

Soules, Oldfield and Christie drove exhibition miles, in which the former did a slow 1:13, and Oldfield a lively 1:00⅖. Christie then tried again and plowed the loose dirt in 1:00 flat.

Walter I. Donnelly won a two miles stock car race in 3:25, with J. K. Gilchrist second and George Windisch third. A mile race for electric runabouts went to Mrs. Gilchrist in 3:11⅕, with George Emerson second. J. K. Gilchrist also won a special match race at three miles with Charles Windisch in 2:38.

The summaries:

Saturday, September 12.

Three miles open—Won by Charles Soules; second, J. K. Gilchrist. Time, 3:28⅘. (No other entries.)

Novelty race—Won by Charles Soules; second, M. Mulhauser; third, C. Conklin. Time, 8:09⅕.

One mile trials against time—Walter Christie, 0:57⅘; Barney Oldfield, 0:58; Charles Soules, 1:03.

One mile sweepstakes, trial heats—Barney Oldfield won first two heats. Time, 1:06, 1:11⅗.

Sunday, September 13.

Three miles stock cars costing less than $3,000—Won by Walter F. Donnelly; second, J. K. Gilchrist; third, George Windisch. Time, 3:25.

Exhibition mile—Walter Christie, 1:00; Barney Oldfield, 1:00⅖; Charles Soules, 1:13.

One mile for electric runabouts—Won by Mrs. Gilchrist; second, George Emerson; third, J. K. Gilchrist. Time, 3:11⅕.

Two miles match race—Won by J. K. Gilchrist; second, Charles Windisch. Time, 2:38.

One mile sweepstakes, continued from previous day—Barney Oldfield won first and third heats, winning the event. Second, Walter Christie; third, Charles Soules. Oldfield's time, 1:06⅖, 1:04⅕. Christie's time for second heat, 1:03⅕.

Fairmount Park Race Gets a Date.

When an automobile race for Fairmount Park, Philadelphia, was proposed some weeks ago by the Quaker City Motor Club, many doubted if such a thing as a permit would be granted. By resolution of the Fairmount Park Commissioners, however, permission was given to the club last Friday to hold a 200 miles race in the Park on Saturday, October 10, the last day of Founders' Week. This date, it will be noticed, happens to coincide with that of the Motor Parkway Sweepstakes on Long Island. The first regular entry for the Philadelphia event was that of Louis J. Bergdoll, who has entered a 60 horsepower American Locomotive which he himself expects to drive. In addition, he may enter a Thomas with George Salzman as driver.

Road Tarring Injures Paris Trees.

After an experiment of four months duration the authorities of the city of Paris have discovered that the tarring of the avenues in the Bois de Boulogne has resulted in the destruction of numerous fine trees and the grass and flower beds bordering the roads. Consequently the tarring is to be abandoned and the old method of watering to allay the dust resorted to once more. It is supposed that some unsuspected element in the process rather than the process itself may be responsible for the difficulty.

VAIN EFFORTS AT TRACK RECORDS

Louisville Race Meet Develops Spectacular Attempts—Salzman the Star—Ten Events Contested.

George Salzman at the wheel of one of the 1906 Vanderbilt cup Thomas cars was the "feature" of the race meet at Churchill Downs, the famous horse track at Louisville, Ky., on Saturday, 13th inst. He made several spectacular attempts to lower the record of 59 seconds for Kentucky tracks, and although he made some meritorious circuits and kicked up voluminous clouds of dust, the best he could do was 1:03⅕.

George Suth was the amateur star of the occasion. He won the 5 miles event for cars between 21 and 40 horsepower, in an Oldsmobile in 6:39, and also came very near Salzman's figure when he made a mile trial in the same car in 1:15⅗. Later he won another five miles event, beating Owen Moteler in a Chalmers-Detroit, after a hot fight in 6:32. M. Middleton won the special one mile "selling race" in a Buick, with Hughes Moore (Autocar) second. and M. R. Oliver (Cadillac crossing the line third.

The summaries:

Two miles, single cylinder stock cars—Won by N. G. Marks (Reo); second, M. R. Oliver (Cadillac); third, H. T. Gratz (Reo). Time, 4:29.

Three miles, stock cars listed between $851 and $1,250—Won by Clarence Gardiner (Buick); second, H. T. Gratz (Buick); third, Treece (Buick). Time, 4:29⅘.

Three miles, stock cars, $1,251 to $2,000—Won by Ira S. Barnett (Cadillac); second, H. T. Gratz (Buick). Time, 4:20⅕.

Three miles, for cars between 15 and 24 horsepower—Won by Clarence Gardiner (Buick); second, Treece (Buick). Time, 4:22⅗.

One mile match race—Won by George Salzman in 120 horsepower Thomas Vanderbilt cup car; second, George A. Dunham, specially built Louisville racer. Time, 1:25⅗.

Five miles for cars between 21 and 40 horsepower—Won by Jack Suth (Oldsmobile; second, Owen Moteler (Stevens-Duryea); third, H. T. Gratz (Buick). Time, 6:39.

Special one mile race between Thomas cup car and motorcycle—Won by George Salzman (Thomas); second, motorcycle.

Record trials for Kentucky tracks—George Salzman (120 horsepower Thomas), 1:03⅕; Jack Smith (Oldsmobile), 1:15⅗.

Five miles for stock cars between 40 and 60 horsepower—Won by Jack Suth (Oldsmobile); second, Owen Moteler (Chalmers-Detroit). Time, 6:32.

One mile selling race—Won by M. Middleton (Buick); second, Hughes Moore (Autocar); third, M. R. Oliver (Cadillac).

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REVISED HORSEPOWER FORMULA

British Manufacturers Shake up Mathematics and More Power Results—How It Affects American Motors.

Following a period of serious and weighty consideration the Society of Motor Manufacturers and Traders of Great Britain has presented to the waiting world yet another proposed universal rating formula for internal combustion engines. Formulas of the sort have multiplied rapidly in Great Britain during the last few years. The most significant, and so far, the only one to be at all generally accepted was that of the Royal Automobile Club, which was subsequently adopted by the Licensed Association of Automobile Manufacturers in this country. The obvious defects in this expression when applied to motors of various classes, such as may be brought together in competition, however, have given rise to so much discontent in England that the S. M. M. T. has felt called upon to offer a modification based on a more extensive recognition of the forces at work within the motor.

The new formula as presented in a voluminous and cabalistic report by the sub-committee appointed for the purpose takes the following form:

Horsepower $= k \times d\ (d - 1)\ (r + 2)\ n$

where k is a constant, d the bore of the cylinder in inches, r the ratio of stroke to bore, i. e., stroke in inches divided by bore in inches, and n the number of cylinders.

The constant, k, is "variable," strange to remark. That is to say, different values may be assigned to it according to the precise type of motor under consideration.

For touring cars the constant is 0.197 and touring formula then becomes $0.197 \times d\ (d - 1)\ (r + 2)\ n$. For racing cars the constant is 0.333, the difference in these values being due to the assumption that piston speed is greatly increased in motors of the latter type.

It is suggested that in competitions of various kinds, it should not be a difficult matter for the authorities to ascertain what is the highest piston speed likely to be met with and then to assign to the constant k a value which will meet the case.

Incidentally and in the same connection, it is noteworthy that when the formula is applied to the cars entered in this year's Grand Prix race, using, of course, the larger of the two constants, the sequence of ratings developed places the cars in practically the same relation as that in which they finished the race. Possibly this may cast some light on the methods employed in arriving at the valuation of the constant, though this may be an uncharitable conclusion in itself, since the result is the product of a most exhaustive study of the general subject, and the bulk of the report is such as to suggest a far deeper investigation of the problem than would be involved in a mere jugglery of the outcomes of one or more contests.

With regard to the new formula in distinction to its only established predecessor —the "R. A. C." formula, as it is known abroad, it will be remembered that that expression takes the form:

Horsepower $= .4 \times d \times d \times n$

Where d is the cylinder diameter in inches, and n is the number of cylinders.

The assumption made in this case is that with cars of standard design, the elements of piston speed and mean effective pressure will invariably be made as high as possible by the designer, and that in the best practice they will approximate one another in different motors with sufficient accuracy to permit of their being covered by the constant .4. This value of .4, or $1 \div 2.5$, as it is sometimes written, is supposed to cover the average results developed in actual practice, based on averages taken from many close tests. As a matter of fact, however, it is not as close an approximation as might be desired even in touring car practice, while for motors of special design in any way, as those which are made for purely racing purposes, it is wholly inadequate.

The new formula attempts to correct the resulting inaccuracy by supplementing this expression with an expression intended to take into account the differences in output caused by variations in length of stroke, and for those caused by differences in the proportions of the cylinders.

To obtain a good general idea of what the proposed formula means, remarks the Automotor Journal, by way of comment, it is first of all necessary to realize that the power of any gasolene engine depends primarily upon the quantity of explosive mixture which it can dispose of efficiently during a given period of time.

"Other minor things being equal," continues that authority, "that means dependence upon piston displacement per minute, or in other words dependence upon piston area multiplied by possible mean piston speed. Were it not that a small cylinder suffers in comparison with a large cylinder because the heat losses to its proportionately larger combustion chamber walls are greater in relation to the volume of the combustible mixture therein, and were it not that a small piston is lighter than a large piston, it would only be necessary to stick to the R. A. C. 'bore multiplied by bore' system to obtain the first (piston area) part of the desired new formula, and then to tack on a 'piston speed' part to it. But since cylinders of larger bore do, within ordinary limits, give higher powers in relationship to their piston areas—the saving of heat losses more than cancelling the effect of the increased inertia forces that are due to the extra weight of the moving parts—some modification of the 'bore multiplied by bore' (i. e., d^2) part is necessary and this requirement has been met by the S. M. M. T. by using 'bore multiplied by bore minus one' (i. e., d [d — 1]) instead.

. . . .

"As regards the 'piston speed' part of the new formula—a part which has been entirely ignored by the R. A. C.—there are two things which have to be borne in mind. One is that, over a certain range, higher piston speeds can be obtained in practice with engines that have longer strokes, while the other is that the exact range over which this rule holds good differs according to the actual size (the bore) of the cylinder. A compensation for stroke has consequently been introduced by the S. M. M. T., but not in the most direct manner, the method adopted being such that its effect also depends upon the size of the cylinder. Of course it will be understood that the increased power (piston speed) derived from a lengthened stroke is nothing like in direct proportion to the dimensional increment, so that if a direct method of compensating for stroke had been adopted at all, it would be in some such way as by taking the square root or the cube root of that dimension. Similarly, the S. M. M. T. method gives a much diluted figure, but the

Comparative Results of British and American Formulas.

Make.	No. Cyls.	Bore.	Stroke.	Maker's rating.	A.L.A.M. rating.	S.M.M.T. rating.
Franklin	4	4¼	4	28	28.9	32.1
Pierce	6	5	5½	60	60	73.3
Packard	4	5	5½	30	40	48.9
Corbin	4	4½	4¼	32.4	32.4	36.5
Cadillac	4	4	4½	25	25.6	29.6
Locomobile	4	5	6	40	40	50.5
Oldsmobile	4	4¾	4¾	36	36.1	42.2
Thomas-Detroit	4	5	4¾	40	40	46.6
Thomas	6	5½	5½	72	72.6	87.7
Mitchell	4	4	4	20	25.6	28.3
Maxwell	2	4½	4	12	16.2	17.9
Premier	4	4¼	4¼	24	28.9	32.6
Stoddard-Dayton	4	4¾	5	30	36.1	42.8
Pennsylvania	4	4¾	5¼	50	36.1	43.7
Marmon	4	5	5	40	40	47.3
*Locomobile	4	7¼	6	90	84	173.2
†Mercedes	4	6	6⅜	—	57.6	123.9

*1906 Vanderbilt Cup car. †1908 Grand Prix car.

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main point to remember about it is that its actual value is a function of the bore as well as of stroke pure and simple. They, in fact, take the ratio between stroke and bore (i. e., divide the stroke by the bore and call it r, and then add the figure 2 to it (i. e., r + 2) for use in the complete horsepower rating. The complete new formula they have advanced therefore becomes

$$k \times d\,(d - 1) \times (r + 2) \times n$$

instead of the R. A. C.

$$k \times d \times d \times n.$$"

To consider the case of two engines each having a bore and stroke of 4 inches, but one being designed for a very high piston speed, such as would ordinarily be employed in racing engines, the ratings developed by the formula would be respectively 7.092 and 11.988. By the older formula, both would be rated at 6.4 per cylinder impartially.

Obviously an objectionable feature of the new expression would thus be the liability to misunderstanding which might arise as to the proper discrimination in the use of the constants. Indeed, as another foreign commentator naively observes, "the fairest method of applying the formula would seem to be that of adopting a fixed constant for every known make and type of engine. This would at least furnish a figure which the user could use with some degree of certainty." Which is apparently about the same thing as affixing an arbitrary value to the power of the motor, since the result of the formula may be influenced to any desired degree whatever by shaping the constant to produce the required result.

For the sake of comparison the rated output of a number of well-known American made engines are given in the accompanying table as furnished by both the old and new formulas, the cylinder dimensions being supplied in each case for purpose of reference. In each case except the last two, the touring constant which is 0.197 has been used. In the latter, the racing constant of 0.333 enters into the calculation. It will be observed that the new ratings are uniformly higher than the old.

NEW MOTOR FOR A NEW MARMON

To be Applied to a Light Weight Car—Refinements Which are Incorporated in the Engine.

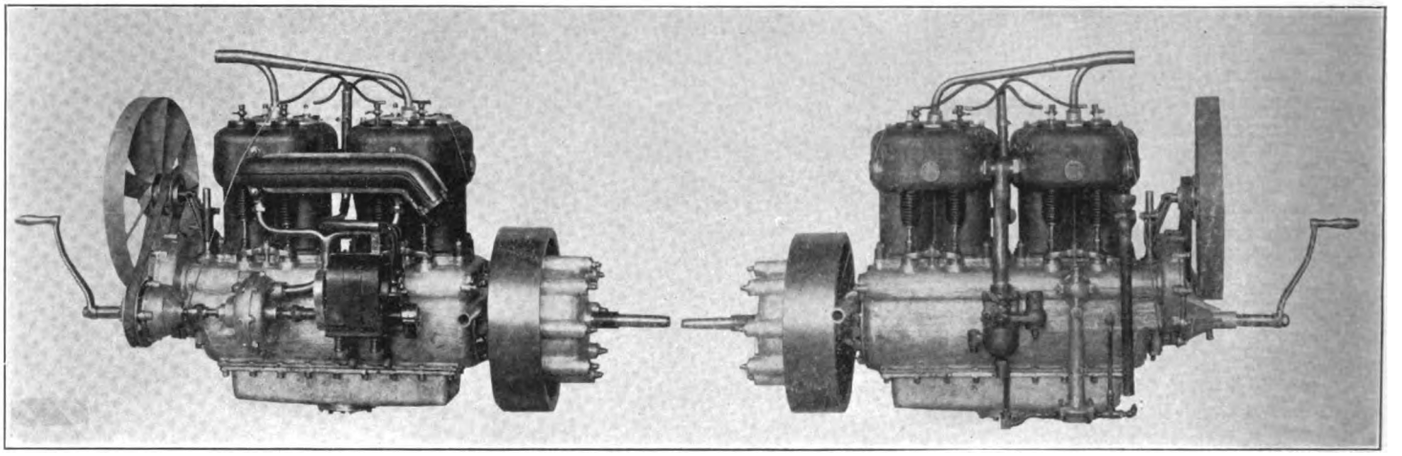
One of the best possible recommendations for a device or system which is in any way radical or differs materially from other systems in use for the same general purpose is its continuance in entirely new models produced by its originator. A case in point is the reappearance of the oiling system which has been in use for some time on the Marmon motors in the latest type of motor brought out by the Nordyke and Marmon Co., Indianapolis, Ind.

This motor, which is rated at 35 horsepower, is to be mounted in a new medium sized, light weight car which the company is bringing out for the coming season, and which is to be known as Marmon "32."

Those familiar with the construction of the present type of water cooled motor, as with the air cooled models which preceded it, will recognize in the accompanying illustration of the carburetter side of the motor, the outlines of the pump casing and its gear driven transmission enclosing the driving element of the effective oil flooding system by which the entire motor is lubricated automatically, all its bearing surfaces being continually drenched with oil regardless of the angle at which the motor happens to be standing. It is partially on account of the success of this system, as a matter of fact, that the straight line drive of the Marmon cars has been secured, in which the motor is placed at an angle to the chassis line.

The details of the oiling system include a hollow crank shaft through which the oil is conducted to the crank pin bearings, whence a portion of the supply is led up the connecting rods through ducts especially provided for the purpose, to the wrist pins. The same source also supplies the main bearings of the crank shaft. The overflow from the various bearing surfaces drains back into the oil pan in the crank case, and after being filtered, is returned to the sump from which the lubricating pump draws its supply, to be used over again.

Other characteristics which will be observed in the motor in question, are the symetrical arrangement of the jacketed, twin cylinder castings; the opposed location of the valves, the intake in particular being characteristic of these makers, in that the ports are siamesed and the connection with the manifold is made at the side of the intake chamber instead of in the center as is more commonly done, thus simplifying the construction of the manifold. Upon the exhaust side, the arrangement of the fan, pump and magneto drives is noteworthy for its stability, these parts being mounted on very heavy brackets. The ignition system is that of the Remy magneto.



EXHAUST AND INLET SIDE OF NEW MARMON MOTOR

The arrangement of the fan upon a pedestal mounted over the forward gear housing with ample facility for adjustment is noteworthy. The method of mounting the motor in the chassis also is revealed in the tubular member seen projecting from the rear end of the machine, just forward of the fly wheel on the carburetter side. The elasticity of the support thus obtained guards against any possible distorsion of the motor as a result of weaving in the frame, besides absorbing the driving torque close to the clutch, where the stresses resulting from it are most violent.

Spark Coils for the Tropics.

Spark coils intended for use in the tropics should be designed with a view to the special conditions under which they must be expected to work. The intense heat of the sun in the torrid zone is not infrequently sufficient to disturb the action of the vibrators, altering their adjustment not a little, also warping the wooden casings of the coil boxes, and even melting the insulation with which they are packed.

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GREENWICH HOLDS A CARNIVAL

It Insludes a Contest on Puts Hill and a Decorated Parade — Afterward Everyone Waltzed.

Aristocratic Greenwich, Conn., was the scene of quite a motor carnival on Saturday last, the 12th inst., in which many New Yorkers and summer residents of nearby towns participated. A decorated parade of costumed riders and decorated cars, and a hill climbing contest were the features of the day, handsome cups being offered in each event.

The climb took place in the morning on Puts hill, on the old Post road. C. P. Geddes, whose Packard won in its class, covered the half mile incline in 44⅕ seconds. George A. Helman was a close second with a Simplex, his time being 0:44¾.

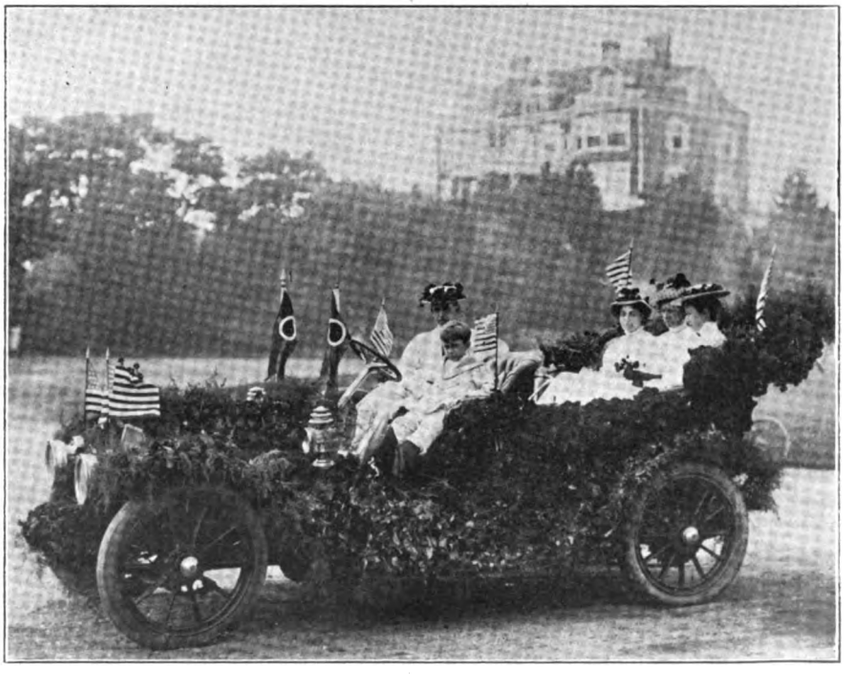
In the lighter classes, J. A. Bullard entered two Buick cars and won two first prizes, and Tito Ferri, who has had some experience in Vanderbilt cup races, tied with Walter Scofield, an amateur, for a first place. In running off the tie, Ferri's time was 0:54 and Scofield's 0:56⅕.

In the afternoon a parade of bedecked machines, many of which were dainty and artistic floats, covered a good deal of Connecticut ground. Headed by a "rubberneck" coach with a brass band, the pageant started through the streets of Greenwich and threaded its way through Field Point, Belle Haven, Edgewood Park, Rockridge, Riverside and Sound Beach, passing the club houses of the Belle Haven Casino Association, Indian Harbor Yacht Club, Fairfield County Golf Club, Riverside Yacht Club, and Sound Beach Golf and Country Club. At the Casino the judging occurred and twelve cups for the hill climbing and decorations were awarded.

The first prize in the parade was awarded to Alfred Gilbert Smith, of Edgewood, Greenwich, whose large touring car trellised with a bower of white floral effects, was loaded with a dozen or more children. The youngsters seemed to make quite a hit with the spectators and the entry was promptly awarded the first cup.



ALFRED GILBERT SMITH'S FIRST PRIZE WINNER



W. H. McCORD'S THIRD PRIZE WINNER

W. H. McCord, of Belle Haven, whose car was covered with ferns and foliage—all in green—was another artistically gotten up prize winner. Even Mr. McCord's Cheerful Widow hat was trimmed with green. A dance in the Casino marked the wind-up of the carnival.

Dangers of the Pit.

In the opinion of an expert, the average owner thinks that every measure of safety has been installed if electric lights have been put in to take the place of an open flame for lighting the interior of the garage and for examining the car.

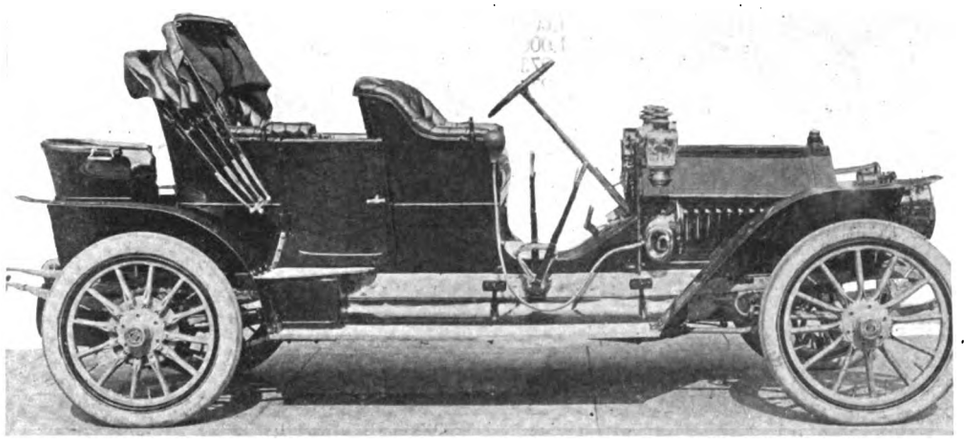
"Not long ago," he said, "I know I saved a man from a beautiful explosion which would have probably blown us both into kingdom-come or further, and would have ruined both the garage and the motor car for the use of his widow. We went into his garage about 10 o'clock in the morning and on opening the door there was as heavy a smell of fresh gasolene as my nose ever encountered. The car was standing over the pit in the middle of the floor and fuel was dripping steadily into the pit, the bottom being wet with it. Nevertheless, the owner was about to insert the switch plug and start up his engine, to show me some feature of its running. If I had not stopped him short, things would have been a wreck because even if the electric spark at the vibrator or the commutator had not ignited the vapor surrounding the machine, one misfire in the engine would have sent a subsequent flame out of the muffler right into the pit, where the vapor was represented in all degrees of explosive mixture with the air. We pushed the car outdoors and let the wind sweep through the garage, but it was only because I have some little reputation of knowing my business that I was not laughed at for representing the incident as having been fraught with danger."

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LOCOMOTIVE'S COUPLED BODY

Big Company Adds Another Model to Its Line—Its Features and the Other Cars Listed.

The "close coupled" body has of late come into considerable favor for touring purposes, and the body equipment of the 1909 American Locomotive 40 horsepower car is an example of the latest development along this line. As will be seen by the illustration, an extra seat is placed at the back, while the regular capacity forward is for four people including the one at the wheel, although a little crowding in the tonneau would easily make it possible to take care of five.



"CLOSE COUPLED" AMERICAN LOCOMOTIVE CAR

The car has a wheelbase of 126 inches, which gives plenty of room for the type of body shown. Large wheels are provided, the forward pair being equipped with 4½ by 36 inch tires and the rear fitted with 5 by 36 inch. The power plant is a four cylinder motor, 4¾ bore by 5½ inch stroke. There are four speeds forward and a reverse. Ignition is by low tension Simms-Bosch magneto and a very complete system of force feed lubrication is employed. The car is supplied in colors to meet the wishes of the purchaser, and sells for $5,000 complete with equipment. In addition to this 40 horsepower model with the "close coupled" body, the American Locomotive Co. is producing at the Providence (R. I.) factory three other models for 1909, including a six cylinder car at $6,000, a town car at $4,500 and a cab at $3,350, all of which present advance features of design.

American Tools for French Factories.

During the course of an investigation as to the use of American machine tools in Europe, Special Agent Capt. Godfrey L. Carden found in a recent visit to the Panhard & Levassor works at Paris and at Rheims that of the 1,025 machine tools in service at the Paris shops, 700 were of American make, while of the 718 at Rheims, 600 came from the United States. His reports show that practically all of the more prominent foreign automobile manufacturers employ American machine tools in growing quantities.

Equal Pressure of Brake Shoes.

It is of the utmost importance that brakes of the shoe type, as contrasted with those in which the braking effort is developed by a band encircling the drum, should be so adjusted that both members come into equal contact with the drum at precisely the same instant. In many types of brake this must occur unless the parts are badly out of condition. In others direct adjustment which is provided for the purpose may be responsible for a difficulty in this respect. Unless the pressure on both sides of the drum is equal that member tends to be thrown out of line, the shoes wear unequally, take hold with a clattering grip, and are wholly uncertain in respect to power developed.

Magnets in Motor Overhauling.

In overhauling the motor or transmission gear it not infrequently happens that small parts such as nuts or washers fall out of sight into the oil reservoir of the housing, their removal occasioning not a little trouble to the workman. In many cases this may be avoided by removing them with the aid of a magnet. A temporary magnet may be contrived by winding a small soft iron rod with insulated wire and connecting the coil thus formed with the terminals of an ordinary electric light circuit.

List Many Motor Car Specialties.

The Turner Brass Works, Sycamore, Ill., has embarked heavily into the manufacture of motor boat accessories, of which they are producing a very complete line. They will, however, continue to make their various automobile specialties which are coupled with the boat accessories in the Turner catalog which just has been issued.

DAIMLER'S TWO "SENSATIONS"

Expectantly Awaited, They Lack Novelty—One a Front-Drive Cab, the Other a Cylindrical Valve.

With praiseworthy patience some of the old ideas which have seen the light almost every year since the automobile industry was big enough to have a name for itself, continue to come to the surface from time to time under the guise of absolute novelty. A striking example of this is found in a promised innovation which the English Daimler Co., is reputed to have under way as a novelty for the coming year.

This turns out to be nothing more nor less than a motor having circular cylinder ports for the admission and exhaust of the gases, while their passage is controlled by the movement of a cylindrical sleeve valve which works in the engine cylinder between the piston and the walls. The exteriors of the cylinders of the engine in question are so constructed that the only visible organs are the spark plugs. It will be remembered that exactly this plan was put into service in this country in a car built in the middle West, several years ago, and that it became quite well known on account of its peculiar construction. Another "novelty" which smacks of former usage and which also is said to be a contemplated innovation on the part of the same firm, is a motor cab chassis, equipped with a transversely mounted engine and driving directly to the front wheels, which are used for both guiding and propulsive purposes.

Graduated Ground Glass Stops Glare.

Among the numerous devices which have been proposed for the alleviation of the glare of powerful headlights, one which is in use in England to a certain extent consists of a special form of lense which, in place of being perfectly clear over its entire surface, is rendered opaque on the upper half of the circle, thus subduing the rays which otherwise would be thrown upward. The entire upper half of the lense is ground to bring this about, but in unequal degrees, the upper edge being most affected, and the shading being graduated toward the center where the surface is only lightly touched. As a result of this the full effect of the light is obtained on the road directly in front of the lamp and ahead below the plane of the center line. Above this point only a subdued glow is obtained which is not blinding to the eye of an observer stationed in front of the lamp, but which furnishes a certain amount of upward illumination.

Auburn Adds to Its Plant.

The Auburn Automobile Co., of Auburn, Ind., are building a large addition to their factory; it will permit a doubling of their output for 1909.

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TOLEDO TRIES AN ENDURANCE RUN

Eight of the Fifteen Starters Obtain Perfect Scores—Togler Wins the Cup for Amateur Drivers.

Taking a trying triangular trip, participants in the first annual endurance and reliability run of the Toledo Automobile Club tasted the joys of endurance touring on September 8, 9 and 10, the route being to Columbus, to Cleveland and back to Toledo, with a day for each leg. There were 15 starters, and eight perfect scores remained at the finish, the distance covered in the three days being 521 miles. As the crow flies the distances between the three Ohio cities is very much less than by the route taken by the tourists, but the circuitous and roundabout itinerary chosen was purposely selected to crowd a whole lot of travel into each day and still land at a night stop where the grill rooms and hotel accommodations were good.

From Toledo to Columbus, the State capital, was 147 miles, and two perfect scores were destroyed. Seven miles south of Marion, O., the Stoddard-Dayton runabout driven by Spieker, came to grief as a result of rushing downhill at a speed so great that in order to avoid striking a slow-going buggy the car went into the ditch and hit an iron fence. A passenger, Henry H. Hower, automobile editor of the Cleveland Plain Dealer, was not able to stop at the moment the car did, and as a consequence he gave a brief but exciting imitation of the Wright brothers in full flight. But after a successful air trip of 20 feet he decided to alight, a decision which he reached with such suddenness as to sprain one foot and get a severe bump. Hower was taken aboard a Maxwell, which served as a red cross car, and hurried the remaining 40 miles to Columbus, where he received more complete medical attention than was possible on the road. The Stoddard-Dayton was far behind its schedule before it could be righted and repaired sufficiently to resume. Two of the three Maxwells came through with perfect scores, but the four cylinder model driven by C. W. Kelsey had trouble with the fuel feed and was penalized 132 points for tardiness. Tire trouble and dust were the evils of the day.

Four perfect scores went by the board in the 195 miles run from Columbus to Cleveland, the unfortunate cars being the Mitchell, two Maxwells and the Stoddard-Dayton touring car driven by Atwood. The Maxwell four cylinder car received further penalization for being late. Plenty of hills and rough roads were encountered. The third day, from Cleveland to Toledo, 180 miles through Norfolk, Sandusky, Tiffin, Fostoria and Pemberville, punctured the tires and the perfect score of the Chalmers-Detroit. The cars themselves together with long strings of buggies and wagons going to the Elyria fair made a smothering dust that shut out the scenery and by contrast brought up memories of beautiful oil dressed and dustless roads that had been encountered the first day. At Fostoria the biggest crowd of the trip turned out to greet the tourists, the streets being lined with cheering masses of people. On approaching Toledo, the 13 cars remaining in the tour were lined up in procession order and paraded into town, where after a final inspection they were dismissed.

T. R. Togler, Oldsmobile, won the cup for amateurs with a perfect score.

The score at the finish was as follows:

Driver and Car.	Score.
F. H. Adams, Mora	1,000
Scheifler, Jackson	1,000
C. D. Paxson, Jackson	1,000
Adams, Reo	1,000
Mert Phillips, White	1,000
D. B. Huss, Brush	1,000
Andrew Auble, Oldsmobile	1,000
Macheskey, Chalmers-Detroit	973
McIntyre, Mitchell	973
Bleasdale, Maxwell	705
Kelsey, Maxwell	539
Atwood, Stoddard-Dayton	undetermined

Road Racing, Mexican Style.

Some half dozen competitors in the "cup race" from Monterey, Mexico to the Concepcione Hacienda on Tuesday, September 1, had a diverting time of it. Two cars survived the run of 150 kilometers, both reaching the goal late at night. The cup was won by A. E. Derby, with Patrico V. Milmo a tardy second; the other contestants falling by the wayside at various stages of the contest. One of the latter was towed about 20 miles by oxen, while another broke down five miles from the finish and the driver had to walk. Others managed to catch railroad trains.

Glencoe Loses Faith in Juries.

Jury trial for alleged automobile speeders is the latest innovation, not the least surprising feature being that it had its first introduction at Glencoe, Ill., a town which has made for itself a reputation of being merciless to the guilty and mighty rough on the innocent. The results of the experiments with the jury system, however, have not been entirely successful, as in the cases which came up last week the jury in each instance was unable to agree, and trial by judge alone became necessary.

Michigan to Hold a Touring Contest.

The Michigan Automobile Association has organized a touring contest which will occur September 24-27. The route will be from Grand Rapids to Detroit and return. Glidden rules will apply.

Two Days of Racing for Milwaukee.

Milwaukee is to have a two days race meet on September 25 and 26. It will be promoted by the Wisconsin Automobile Association in connection with the State fair.

NEW YORK'S EFFICIENCY TEST ON

Thirty-seven Starters in the Run to Montauk Point and Return—Split up into Many Classes.

Although organized on comparatively short notice, no less than 36 contestants started yesterday on the two days mechanical efficiency test from New York to Montauk Point, L. I., and return.

The event is being conducted under the auspices of the New York Automobile Trade Association, whose members supported it loyally.

The cars started at 7 a. m. at Columbus Circle, New York City, and were escorted across the Bridge to Brooklyn, and a detour made to Bay Ridge, L. I., where the cars were officially checked out. The first day's run will be to Montauk Point, 145 miles, the route bein retraced the following day. There were two general divisions of the contest, trade and amateur; and these are divided as regards price into eight classes, as follows:

Class A, cars selling for $850 or less; B, $851 to $1,250; C, $1,251 to $2,000; D, $2,001 to $3,000; E, $3,001 to $4,000; F. $4,000 nd over; G, taxicabs carrying two passengers and driver, and H, the touring division. The entries were:

Trade Division.

Driver.	Class.	Make.
E. H. Brandt	A	Cadillac
F. O. Hinhauser	A	Maxwell
C. W. Kelsey	C	Maxwell
W. W. Burke	E	Mora
R. M. Owen	B	Reo
Mrs. J. N. Cuneo	F	Rainier
L. A. Disbrow	F	Rainier
C. A. Kirchhof	D	Mitchell
S. B. Bowman	D	Apperson
J. W. Gogarn	A	Reo
Charles Lowd	E	White
Wm. Knipper	C	Chalmers-Detroit
F. G. Falberth	D	Oldsmobile
Carl Reichenbach.	E	Stevens-Duryea
V. P. Pisani	F	Zust
J. W. Mears	F	Acme
Frank Dunnell	A	Ford
C. A. Emise	F	Lozier
Frank Eveland	E	Stevens-Duryea
O. R. De Lamater.	C	Mitchell
C. H. Tangemann.	E	Lancia
L. Young	E	Stevens-Duryea
H. C. Townsend	F	Locomotive
P. J. Johnson	E	Locomotive
W. W. Price	A	Brush
A. H. Whiting	D	Stoddard-Dayton
W. D. Brown	C	Mitchell
E. H. Partridge	F	Stearns
Paul Cimiotti	D	Pullman

Touring Division.

W.E. Shuttleworth	D	Haynes
W. J. Wyatt	D	Oldsmobile
Eugene Bofinger	C	White
Daniel Sheehan.	Truck	Knox
C. M. Louther	F	Stevens-Duryea
W. R. Ross, Jr.	D	Acme
R. Newton	D	Stodard-Dayton
Mrs. J. R. Ramsey	C	Maxwell
F. A. Burrelle	C	Autocar
H. M. Casbrunt	F	Lozier
Harry Fosdick	Special	Lancia

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AS A CURE FOR TUBERCULOSIS

Physician Who Examined Edge After His 24 Hours Ride Renders Belated Report—His Remarkable Views.

When, months ago, S. F. Edge created his remarkable 24 hours record on the Brooklands (England) motordrome, it transpires that he was closely watched by Dr. L. P. Gibson, a London physician, who examined him minutely both before and after the race. The results of the doctor's examinations, which but recently have been printed in a medical journal, border on the startling. For, according to Dr. Gibson, motoring at high speed is a cure for tuberculosis and he says that Edge's case proved it. Edge, it must be understood, is not a consumptive, but delicate tests showed that his lungs were in better condition to resist tubercular infection after the race, than before he started. In the report which the medical man has found courage to make public and risk having his colleagues contradict, he says:

"Edge's temperature before starting was 98.4 degrees, pulse, 74. At the end of the race his temperature was 100 degrees and his pulse 70. I take it that the slowing was due to exhaustion, that the blood pressure was slow, due to vagus control, and that the residual blood in the left ventricle was increased in amount. The condition of weak pulse may be accentuated by the fact of the blood being 'soaked up," as it were, by the lungs, owing to the long continued rapid movement through the air.

"Before the ride a specimen of blood was taken and examined for the index of resistive power to tubercular infection, which was found to be 0.85. Another specimen taken directly after the race gave 1:17. That the power of resistance to the tubercle bacillus should be raised after the long journey is very noteworthy, and helps to strengthen the opinion held by many of us that motoring is an effective treatment in some cases of tuberculosis, and that the gloomy prophecies of some anent the bad effects of great speed on the system were incorrect."

"Auctioned" Car While It Blazed.

Sang-froid distinguished the deportment of James M. Cornwall, of Red Bank, N. J., when his machine burned up on the roadside and he held an auction over the wreck as the flames ate up the woodwork and played among the metal parts.

As the car stopped in Morgan's Station, N. J., on account of an open drawbridge, it was noticed that a small fire was disporting itself in the underworks. The attention of the occupants of the car was drawn to it by people on the sidewalk and on the veranda of the club house of the Tuesday Club. By the time Cornwall and his family got out to look, the car was broiling nicely and in a minute more it was a mass of flames. Spectators offered to try and save the car, but Cornwall seemed very cool and indifferent, it is said, and asked the crowd for bids on the machine as it stood. The rapidity with which it was being reduced to junk by the fire made the bidding very timid, and it was started with 50 cents. By humorous and energetic auctioneer methods, however, the owner succeeded in running it up to $10, which sum he promptly accepted and leaving the car to its fate, he got on a trolley car with his wife and son and rode away.

The blaze continued and the bystanders began to speculate as to when the gasolene tank would blow up. A sharp explosion sent them scurrying in a panic, but it was only one of the tires. Three similar explosions followed as the heat weakened the rubber and expanded the air inside. As the gasolene flowed more freely from the tank the flames swept over to the club house and set the veranda on fire, so that vigorous work by a bucket brigade was necessary. Late in the evening, when what was left of the car had cooled down so that it could be handled, Wood Applegate, the successful bidder, drew up with a two wheeled cart and loaded up with the scrap that represented his $10 purchase.

To Stop the Small Boys' Pranks.

Adventuresome boys who hop on the running boards of moving automobiles are to be the subject of special attention from the Omaha (Neb.) police, the chief having issued instructions to the patrolmen to stop the practice by making arrests whenever the boys are caught doing it. Likewise the youthful marauders who like to "pretend" chauffeur by jumping into unattended cars that stand by the curb and yanking the levers and turning the steering wheel first one way and then the other, are to be taken into custody.

Licking County Automobilists Organize.

The Licking Automobile Club has been organized in the Ohio county by that name with the following officers: President, J. I. Matthias; secretary, M. J. Reese; treasurer, Carl Swisher; executive board, John Swisher, A. B. Schauwecker, J. R. Fitzgibbon, Fred C. Evans, J. J. Carroll, James C. Mills, A. H. Heisy, E. T. Rugg, W. W. Wehrle, W. S. Weiant, J. S. Jones, H. B. Rusler, Job Wilson, Lewis Coffman and C. A. Pence.

For a Motordrome in France.

After the lapse of considerable time, the much-discussed scheme for the establishment of a permanent motordrome in the Puy-del-Dome district of France has taken definite shape in the organization of a syndicate to develop the project. La Société d'Etudes du Circuit Permanent, as it is called, has made its modest appearance with a capitalization of $10,000.

WHERE RED CARS ARE DANGEROUS

Tall Tale Told by a Tourist Returned from the Dakotas—Offers Battered Car as Evidence of Truth.

Peculiar local conditions sometimes affect the popularity or unpopularity of certain colors and various localities have become marked by their likes and dislikes in this respect. While Davenport, Ia., is apparently enamored of grays—one manufacturer alone having supplied eighteen especially finished gray cars for Davenport owners—there are other places where some one color is under the ban. North Dakota and South Dakota cross red off their list entirely because of the danger it presents to anyone so unfortunate as to select it. At least that part of North and South Dakota which is in the cattle country does so. Because the cattle will not abide red if it be at all bright in hue. The recent experience of a Minneapolis owner who made a trip through the cattle country with a red car is cited as an example of what trouble erubescent shades of finish will get a driver into if he braves appearance among live beef on the hoof. The experience befell A. A. Hanson, who has a local reputation for veracity, and whose car after a trip in the Dakotas came back looking a battered wreck of its former self.

"We set out for a pleasure trip," says Hanson, "and for five days it was a pleasure trip. Then after leaving Washburn, N. D., we struck the cattle country of the plains. We were speeding across the prairies for the South Dakota borders when we got our first note of warning. The note of warning was the bellow of a bull. Looking up, I saw a 2,000 pound monster in close pursuit of our machine. He was bellowing and snorting, and I opened up on the high speed. For some time I didn't know what was the matter. I cut out the muffler in an effort to scare him away, but he came on faster and faster. Then I tumbled. The bull had spotted the bright red of our machine, and if he ever caught us there would be telegrams to Minneapolis.

"I never believed much in dodging, but I started it then and it worked. For just six days we dodged in and out of the cattle herds of North and South Dakota. When I was a kid I played a good game of prisoner's base and I want to tell you the knowledge came in handy.

"We had several narrow escapes, but I won't particularize. That gouge in the red paint on the rear end of the car was made by an infuriated heifer ten miles east of Bismarck. A brindle cow took off that front fender five miles from the State line at Big Stone. That spot in the tire is where we hit a yearling near Ortonville.

"I have always fancied red automobiles but they will not do in the Dakotas."

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Standard Detachable Rim

Resolution passed by the NATIONAL ASSOCIATION OF AUTOMOBILE MANUFACTURERS at a meeting held in New York, August 5th, 1908.

"Whereas, the Standard Universal Rim, described in the report of "the Special Rim Committee, has been recommended by the committee "as mechanically satisfactory, be it

"RESOLVED that this association hereby adopts the rim so de- "scribed as standard, subject to the consummation by the Special Rim "Committee of satisfactory commercial arrangements with the patentee "and manufacturers."

At the above meeting all the detachable rims now on the market as well as proposed new rims were carefully considered.

THIS IS THE RIM



Standard Rim as Used for Clincher Tires



Standard Rim as Used for Dunlop Tires

Hartford Rubber Works Co.
Hartford, Conn.

Morgan & Wright
Detroit, Mich.

G & J Tire Co.
Indianapolis, Ind.

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The Mitchell

The car you can afford to buy and KEEP

$2000

The Mitchell appeals to you, Mr. Business Man, because it gives you just as much **pleasure**—just as much and as **good service**, is just as **stylish** and neatly **finished** as any car, and doesn't cost you a small fortune to **buy**—or **keep**.

The Mitchell at $2,000 is the standard automobile value.

Prove it—Mr. Business Man.

Get **demonstrations** of the extravagantly high-priced cars—and then try the **Mitchell** over the **same** route.

The Mitchell **agent** will be glad to take you out if you're interested for 50 or 100 miles any time you say. Call him up (it places you under no obligation)—**Challenge** him—

Just say, "Show Me."

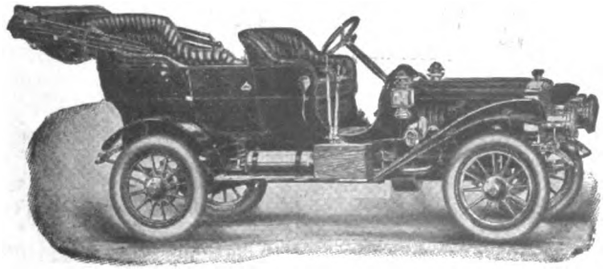
He'll come around with a car and show you a "silent argument" that will get your order or he will retire without a word.

Our catalog No. 18 is fully descriptive of the Mitchell 1908 Touring Car $2,000—Limousine $2,800—Roadster $1,250, and Runabout $1,000. Write for it—we'll also send letters from users, proving the Mitchell to be the most economical car to **operate**.

Mitchell Motor Car Co., 286 Mitchell Street, Racine, Wis.

Standard Manufacturers, A. M. C. M. A.

This car—shown here—35 h. p., 4 cyl., speed 50 miles, finished in Mitchell blue—price $2000—is excellent throughout—the car you ought to have at the price you ought to pay.



"Solar Lamps Invaluable"

Says Schuster, Driver of Thomas Car, New York-Paris Race.



August 18, 1908.

BADGER BRASS MFG. CO.

Gentlemen: It may interest you to know that from the time we left New York until we reached Paris our Solar Lamps gave absolute satisfaction, in fact, they were invaluable! Meeting the worst possible road and weather conditions both in America and Siberia, they did their work in the most satisfactory manner and at no time did they give us any trouble. I consider them to be the best automobile lamp made. Yours truly, George Schuster

BADGER BRASS MANUFACTURING CO. 606 Lyman Avenue KENOSHA, WIS

A Prominent Publisher of the South

has just written us of his own accord:

"Your car (one of our four cylinder Model Rs) did not give me a particle of trouble of any description in a journey which reached 1,500 miles. The machine is all right in every respect and chugged as sweetly yesterday afternoon when I came into Baltimore as it did when I left."

An important point to remember: The Model R 20 horsepower is an old car—we have discontinued making them.

Stevens-Duryea Quality

—lasting quality—is emphasized in every model we have produced and are producing.

Model X Four Cylinder, $2,750
Model U Light Six, - - $3,500

Send for latest catalogs.

STEVENS-DURYEA CO. Chicopee Falls Mass., U. S. A.

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The Week's Patents.

891,552. Igniter. Charles B. King, Detroit, Mich., assignor to Northern Manufacturing Company, Detroit, Mich., a Corporation of Michigan. Filed June 9, 1906. Serial No. 321,036.

1. An igniter comprising a casing having a nipple at one end for detachably engaging the engine cylinder and two upwardly extending nipples, a priming cup engaging the outer one of said upwardly extending nipples and a spark plug engaging the intermediate nipple.

891,557. Ring of Removable Mail Covers for Pneumatic Tires. Salvatore A. Marazzani, Palermo, Italy. Filed Nov. 4, 1907. Serial No. 400,643.

1. In a removable mail cover for pneumatic tires of automobile wheels, two series of rings constituting alternately the cover, one of the series being formed of greater rings of flattened rectangular section and of slightly concave shape, the other series being formed of smaller rings of circular section.

891,578. Tire Armor. Horace G. Wheeler, Canandaigua, N. Y. Filed Oct. 30, 1906. Serial No. 341,213.

An armor for rubber tires comprising an annular shell having a series of pairs of oppositely disposed plates hinged to its side edges, each plate being provided with a tongue extending radially inwards therefrom, a block between the free ends of each pair of tongues and provided with a threaded opening, a threaded sleeve slidable in said opening, a rod slidable through said sleeve and projecting therebeyond at opposite ends, a thumb-screw secured to the outer end of said sleeve and provided with an axial opening through which said rod passes, a shoe secured to the inner end of the rod, and a coil spring carried by the rod and bearing against said shoe and the adjacent end of said sleeve.

891,607. Shock Absorber. Frank Doront, Paterson, N. J. Filed Sept. 25, 1907. Serial No. 394,452.

1. In combination, two supporting members pivotally connected together, each of said members comprising two substantially parallel arms arranged alternately with the arms of the other member at the pivotal point, means intermediate each arm of one member and a corresponding arm of the other member for offering a resistance to the movement of said members, and resilient means for forcing said arms and resistance means into engagement with each other, one arm of each of said members presenting a cam surface at the pivotal point for varying the tension of said resilient means and varying the resistance.

891,623. Engine Starter. Clayton B. Lazenby, Chicago, Ill. Filed Aug. 7, 1907. Serial No. 387,490.

1. In a motor vehicle, an engine having a shaft, a collar rotatably mounted upon said shaft, steering mechanism, means for rotating said collar from said steering mechanism, and independently operated means for locking said collar to said shaft.

891,638. Water Injector for Internal Combustion Engines. Alfred G. Scholes, Ilford, and George Gibson, Westminster, England. Filed Jan. 18, 1908. Serial No. 411,539.

1. An appartus for injecting water into the cylinder of an internal combustion engine operated by the force of the explosion in said cylinder, comprising a cylinder open to the working cylinder of the engine, a piston working in said cylinder, a small force pump the ram of which is operated by said piston, suction and delivery ports for the pump fitted with non-return valves, the outlet of the delivery port terminating in the cylinder of the apparatus at or near the open end thereof so that said outlet is closed by the piston of the apparatus when said piston is at the end of its stroke at the open end of the said cylinder, as set forth.

891,655. Vehicle Wheel. Thomas A. Baker, Renick, Mo. Filed April 2, 1907. Serial No. 365,978.

1. A vehicle wheel provided with a cushioning element interposed between the wheel rim and the hub, a tire secured to the rim approximately centrally thereof and consisting of a series of closely abutting blocks strung upon a flexible member, and a mud guard detachably secured to each side of the wheel rim and each of which is of a diameter equal to the diameter of the tired wheel.

891,682. Spring Wheel. Giuseppe Ferrando, Genoa, Italy. Filed Feb. 8, 1906. Serial No. 300,196.

1. In a spring wheel, the combination of an inner rim, a band surrounding the inner rim, and provided along opposite edges with inwardly extending flanges which embrace the inner rim, and also with outwardly extending flanges, a series of bolts connecting the oppositely disposed, outwardly extending flanges, an outer rim spaced from the inner rim, and a series of coil springs having their outer ends pivotally connected to the outer rim while their inner ends are pivotally connected to the above mentioned bolts joining the outwardly extending flanges upon the above mentioned band.

891,697. Radiator Fan for Motor Vehicles. Russell Huff, Detroit, Mich., assignor to Packard Motor Car Company, Detroit, Mich., a Corporation of West Virginia. Filed March 26, 1907. Serial No. 364,724.

1. In an adjustable fan support, a bracket having a clamp, a threaded stem within said clamp, said stem having a fan spindle connected therewith and said clamp and stem having keyways, a key fitting within said keyways, and a split sleeve or bushing interposed between said spindle and clamp.

891,767. Power Device for Moving Automobiles. Benjamin J. French, Brighton, Colo., assignor of one-half to Emmet A. Bromley, Brighton, Colo. Filed Oct. 1, 1907. Serial No. 395,421.

1. In a device as specified, the combination with a vehicle having a motor driven shaft, of draw bars secured to the vehicle at one end, their opposite ends being hooked to engage the said shaft; bearings upon said draw bars; a shaft slidably mounted in the bearings, having a clutch on one end; a shaft having a clutch in line with the first mentioned clutch; a sprocket wheel on said shaft, a sprocket wheel on the motor-driven shaft, and a chain connecting said sprocket wheels; a drum on the slidable shaft; a cable on said drum having an anchor upon its free end; depending guide rollers secured to the vehicle adjacent to the drum; discs secured upon the slidable shaft; a lever pivoted at one end and extending between said discs, for shifting said shaft, and means for holding said shaft either in an operative or an inoperative position, relatively to the power driven clutch.

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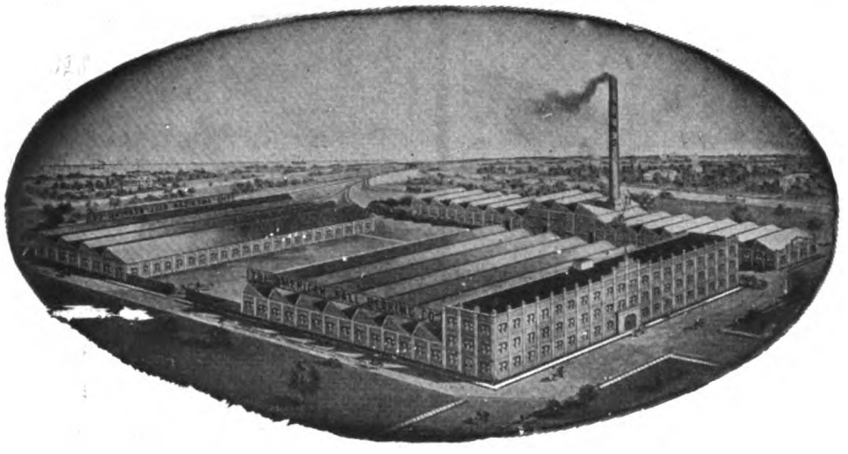
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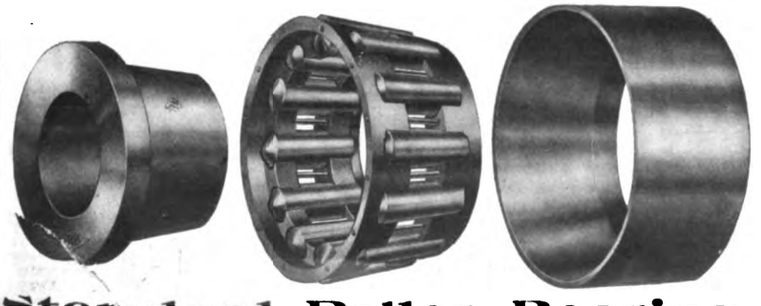


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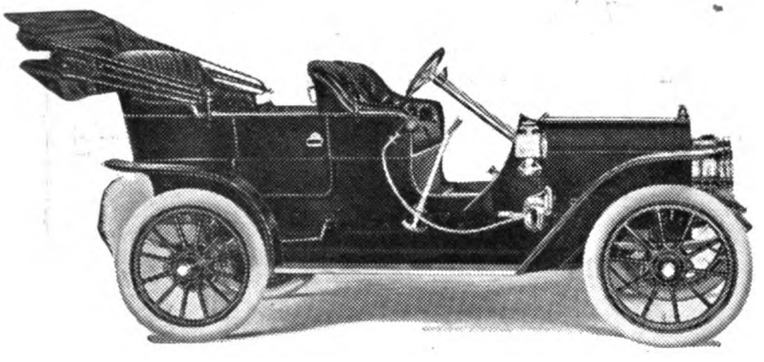
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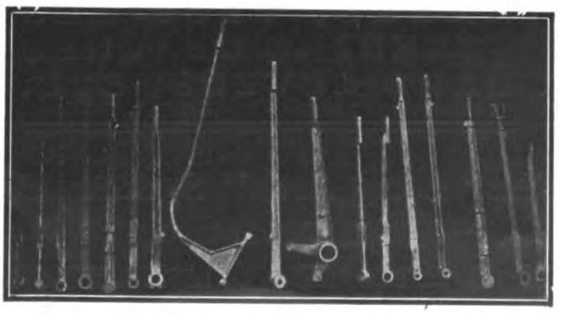
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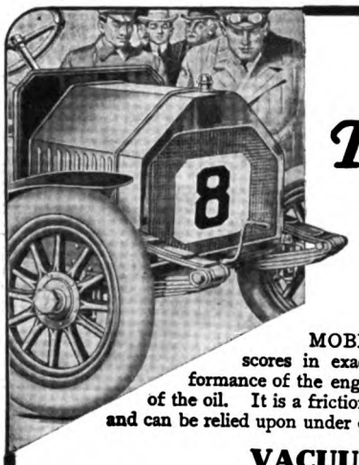
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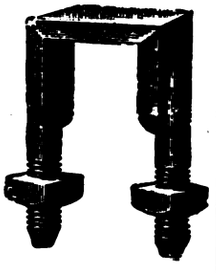
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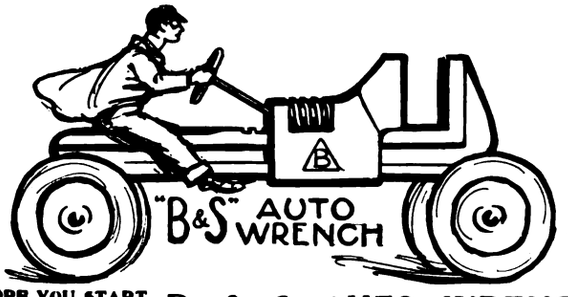
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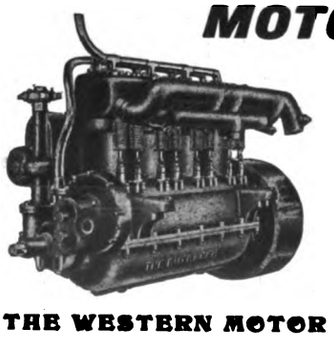


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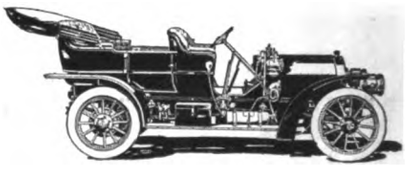
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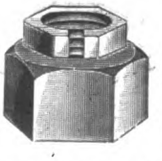
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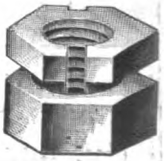


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accept your contract unless we can give you the delivery you require. We will not accept more contracts than we can fill with proper attention to each. We make Pressed Steel Frames and Automobile Stampings.

THE HYDRAULIC PRESSED STEEL CO.,
Cleveland, Ohio.

The PULLMAN
4-40 Roadster. Price, $3,000.
that made the run from Philadelphia to Savannah, Ga., March 5th to 18th, through mud up to the radiator, beating all previous records.
YORK MOTOR CAR CO., York, Pa.

MICHELIN
FRANCE. ENGLAND. ITALY. AMERICA.
MICHELIN TIRE COMPANY
MILLTOWN, N. J.

THE GYROSCOPE CAR
The Simplest Automobile in the World.
Address the
GYROSCOPE AUTOMOBILE CO. (INC.)
Gyroscope Bldg.,
231 West 54th St. New York City.

THE MOTOR WORLD PUBLISHING COMPANY
154 Nassau Street, New York

Enclosed find $2.00 for which enter my subscription to

The Motor World

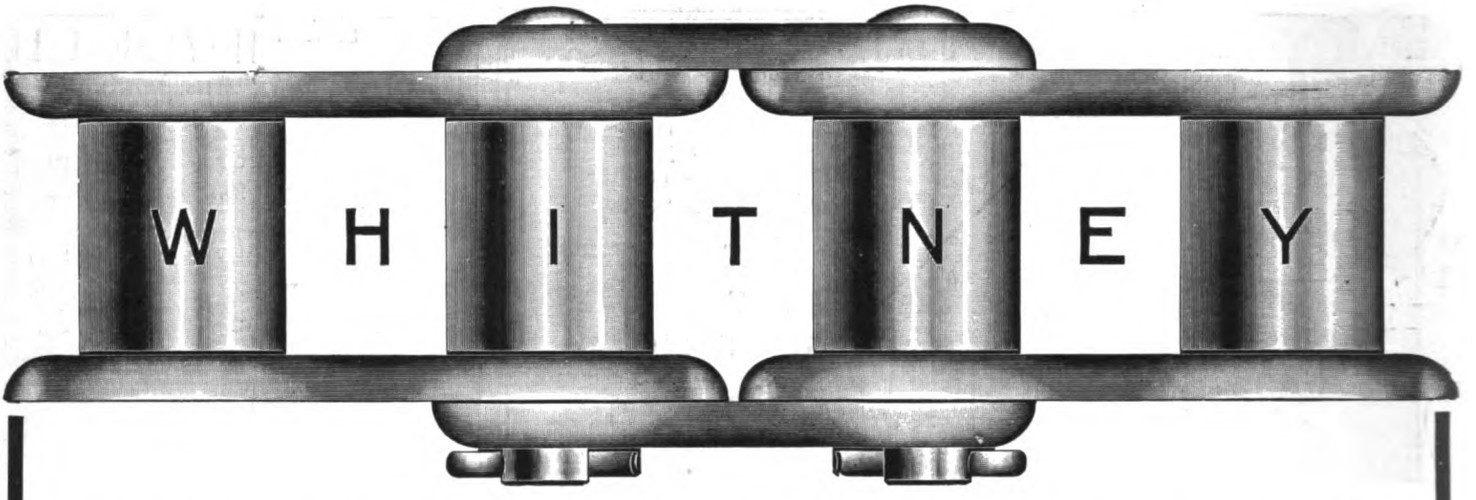
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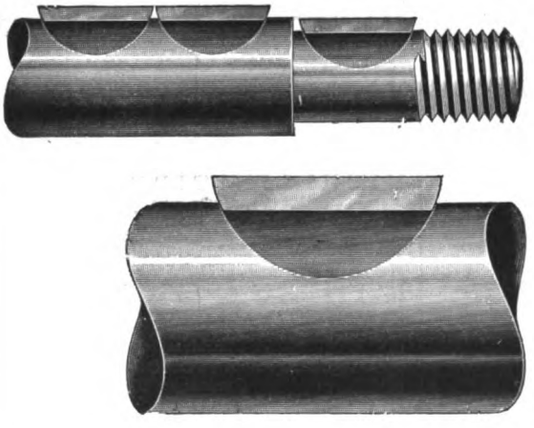
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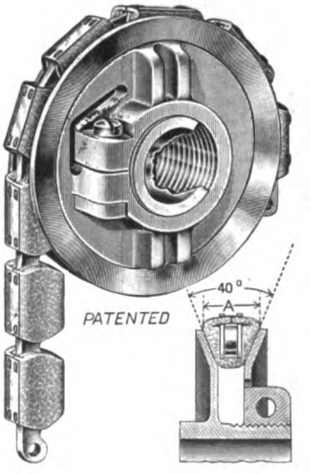


"Whitney" 1909 Model Chains and Prices

ARE NOW READY

All Motor Car Manufacturers should get full particulars before closing, as we have made great gains in strength and durability. With certain sizes of chain we have gained over 100% on earlier models.





New "Whitney" Chain Belt
FOR
Cooling Fans, Oiling Devices, Motorcycles, Etc.

If you are not taking advantage of the Woodruff Patent System of Keying it will pay you to investigate.

Better results and a great saving in cost.

We carry 95 regular sizes of Keys and Cutters in stock for immediate delivery.

THE WHITNEY MANUFACTURING COMPANY

Hartford, Connecticut

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TIME WAS when tire worry spoiled much of the enjoyment of motoring and the motorist who footed the bills had no voice in the matter.

THEN CAME THE AJAX wrapped tread tire with its superior services.

AND NEXT THE AJAX 5,000 MILE GUARANTEE —If the user of Ajax tires fails to obtain 5,000 miles service from his tire, it is for us to worry—not him, and we make good.

WITH AJAX TIRES the tire problem resolves itself into a plain proposition. We know that they will do, and we offer you the best kind of an insurance for expressing your willingness to find out for yourself.

IS THERE ANYTHING MORE BUSINESS-LIKE THAN THIS?

Write for copy of Guarantee, stating what size tire you are using.
Address Dept. A.

AJAX-GRIEB RUBBER COMPANY
GENERAL OFFICES: N. E. Cor. 57th St. and Broadway, New York
Factories: Trenton, N. J.

BRANCHES:
New York, 1776 Broadway — Denver, 1529 Cleveland Place
Boston, 819-a Boylston St. — Seattle, 1102 Broadway
Chicago, 1418 Michigan Ave. — San Francisco, 460 Golden Gate Ave.
Detroit, 743 Woodwood Ave. — Los Angeles, 1040 S. Main St.
Agents in all large cities.

THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

$ 2 0 0 0

Touring Car **Roadster**
Limousine **Landaulet**

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.

ROCHESTER, N. Y.

Member A. L. A. M.

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The Glidden 1908 tour was won on

Timken Roller Bearings

Foremost among the winners were the three cars composing the Peerless Team, all of which finished the 1700 miles running with clean scores. All three were equipped with **Timken Product.**

Timken Roller Bearings on Axles, Steering Knuckles and Transmission Gears

reduce friction to zero, take up load and end thrust—prevent resistance to engine—save wear and tear on every working part and make perfect scores possible.

The best cars of every make have **Timken Roller Bearings.** There is a reason. Let us give it to you.

THE TIMKEN ROLLER BEARING AXLE COMPANY, Canton, Ohio

Branches: 10 E. 31st Street, New York. 429 Wabash Avenue, Chicago.

THE BRAMPTON MOTOR CHAIN



All side plates on both sides of the Brampton Chain are stamped "BRAMPTON."

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement. THE BRAMPTON CHAIN is made of self-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like **THE CELEBRATED BRAMPTON CHAIN** because some of the other chain makers began to copy the design and shape of the **BRAMPTON CHAIN** links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the **BRAMPTON CHAIN** than ever before. These chains somewhat resemble the **BRAMPTON** in appearance, but the manufacturers of such chains have been unable to copy the material —self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the **BRAMPTON MOTOR CHAIN** in the past ten years.—"ENUF SED."

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the **BRAMPTON FILLS THE BILL,** and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size. We have in stock chains to fit all American and foreign cars.

YOUR 1909 CAR

You can have the new car that you order fitted with the **CELEBRATED BRAMPTON CHAIN** if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.
Agents wanted in unoccupied territory. Catalog on request.

CHAS. E. MILLER, Manufacturer, Jobber, Exporter and Importer
Main Office: 97-99-101 Reade Street, New York

BRANCHES: 54th St. and 8th Ave., New York. 318-320 N. Broad St., Philadelphia, Pa. 1829 Euclid Ave., Cleveland, O. 824 Main St., Buffalo.
202-204 Columbus Ave., Boston, Mass. 227½-229 Jefferson Ave., Detroit. 1392 Bedford Ave., Brooklyn, N. Y.

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The Car You Can Afford to Buy and Keep

is the Mitchell.

—Because it is moderate in price ($1,000 to $2,800).

—Just as stylish, handsome and well finished as any car.

—And is perfect in each detail of construction.

—Doing just as well on the road and standing up to wear and tear just as well as the extravagantly high-priced cars.

Know this for yourself, Mr. Business Man.

Get demonstrations of the high-priced cars.

Then form your opinion in a demonstration of the Mitchell.

The Mitchell agent will be glad to take you out for 50 or 100 miles any day.

Call him up—you are placed under no obligation.

$2000

Just say "Show Me"

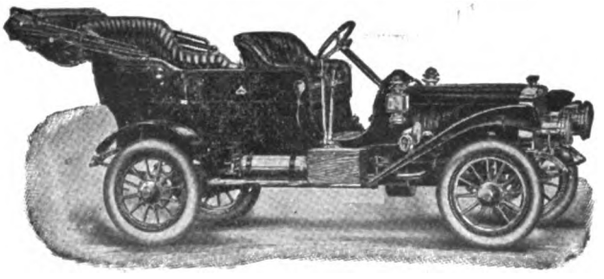
He'll answer with the car—show you a "silent argument" that will convince you.

Write for letters proving that the Mitchell is the most economical car to operate, and for catalog No. 18, picturing and describing the Mitchell Touring Car $2,000, Limousine $2,800, Roadster $1,250, and Runabout $1,000.

Touring Car shown here—5 passenger, 35 h. p., 4 cylinder, speed 50 miles, finished in Mitchell blue—a very neat and extremely desirable car from radiator to tail light.

Mitchell Motor Car Co., 286 Mitchell St., Racine, Wis.

Standard Manufacturers,
A. M. C. M. A.





New York to Paris Race Impossible Without Weed Chains

August 21, 1908.

Weed Chain Tire Grip Company:

Gentlemen:--The road conditions in the New York to Paris Race made travel an impossible task without the use of Weed Chains on our tires. We struck, snow, ice, mud, slush--everything. In some places we would not have made two miles a month without chains. In fact I do not believe our winning Thomas, or any other car would ever have seen Paris if it had not been for your equipment. Outside of preventing lost traction they saved us time and again from accident--and possible destruction.

GEORGE SCHUSTER.

Weed Grips positively prevent slipping and "skidding". They grip and hold the wheels in muddy going or on the steepest hills. They made the crossing of America and Siberia possible. They are as indispensible to your car, as they were to the victorious Thomas.

Weed Chain Tire Grip Company

35 Moore Street, New York

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Standard Detachable Rim

Resolution passed by the NATIONAL ASSOCIATION OF AUTOMOBILE MANUFACTURERS at a meeting held in New York, August 5th, 1908.

"Whereas, the Standard Universal Rim, described in the report of "the Special Rim Committee, has been recommended by the committee "as mechanically satisfactory, be it

"RESOLVED that this association hereby adopts the rim so de- "scribed as standard, subject to the consummation by the Special Rim "Committee of satisfactory commercial arrangements with the patentee "and manufacturers."

At the above meeting all the detachable rims now on the market as well as proposed new rims were carefully considered.

THIS IS THE RIM



Standard Rim as Used for Clincher Tires



Standard Rim as Used for Dunlop Tires

Hartford Rubber Works Co.
Hartford, Conn.

Morgan & Wright
Detroit, Mich.

G & J Tire Co.
Indianapolis, Ind.

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Mongrel or Thoroughbred?

NOW IS THE TIME for you, Mr. Thoughtful Dealer, to decide what you will sell in 1909.

WILL IT BE A MONGREL? a car assembled from parts carried together from all over the country and hammered into shape as well as may be?

OR WILL YOU SELL THE THOROUGHBRED—a homogeneous mechanical masterpiece, every single part of which is the result of the same genius that devised the whole?

"ASTOUNDING," "MARVELOUS," "WONDERFUL," are the terms with which some assembled cars are now tagged, though they are astounding, marvelous and wonderful only to the assemblers, who like Rip Van Winkle, have been dozing in the growing woods of automobiledom and who now, bewildered by the progress that has been going on, seize upon time-tried and long-established practices and herald their adoption by the assemblers as brand-new discoveries.

LET'S REASON IT OUT: On the one hand you have the assembled car, with an engine bought from one manufacturer, a frame from another, and a transmission from a third, and so on down to the last rivet. The maker of the engine, the mill in which the frames are pressed, the transmission man, all derive their separate profits, leaving no other way to the assemblers to obtain their rewards than by skimping the quality of their "product."

AND THEY DO IT—THEY MUST! When you examine some of these astounding cars you will be truly astounded on finding that the four-cylinder engine is cast in one piece and has only two main bearings, whereas the Maxwell has four cylinders and five main bearings. You know well enough that making a motor with only two bearings is equal to leaving the engine to its own devices as far as alignment is concerned.

IT WILL BE A TOUGH JOB FOR THE DEALER to convince the purchaser who is wise that some four-cylinder engines of small dimensions will develop as high as 30 horsepower—because they can't.

MAXWELLS ARE A HOME-GROWN AMERICAN PRODUCT. The use of Maxwell features in Maxwell cars was neither a heaven-given inspiration nor the aping of foreign design, but the outcome of sound engineering sense.

WHEN 10,116 MAXWELL OWNERS testify to the excellence of their cars, all of which have been sold by Maxwell dealers, then the Maxwell proposition is one that you can't afford to pass by.

BEFORE HITCHING YOUR WAGON TO A STAR it will be wise for you to find out all about a dealership for Maxwells, the success of which is past and present, instead of lying in the dark and distant future that has swallowed so many wonderful cars that have been marvelous chiefly in their complete and rapid disappearance from the field of legitimate competition.

Benj. Briscoe

President.

MAXWELL-BRISCOE MOTOR CO.

Standard Manufacturers A. M. C. M. A.

P. O. Box 106, Tarrytown, N. Y.

Factories: TARRYTOWN, N. Y. NEWCASTLE, IND. PAWTUCKET, R. I.

Address communications to Tarrytown, N. Y.



LAMPS AGAIN "SHOW THE WAY" TO VICTORY

Perfect lighting equipment played an important part in the

GREAT BRIGHTON
Twenty-Four Hour Race

The two winning Lozier Cars both lowered the existing World's Records —the "Big Six" covering 1,107 miles —the "Four" 1,092 miles.

Says the Lozier Motor Company:

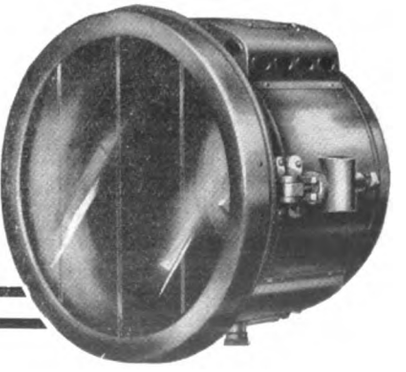
"Solar Lamps lighted the way for the two Lozier cars in the great twenty-four hour Brighton Beach Victory. Lozier Big Six 1st, Lozier Four cylinder 2d. Both cars breaking existing world's records and defeating best cars of America and Europe."

On all the best cars you will find the best lamps—SOLARS.

Catalog upon request.

BADGER BRASS MFG. COMPANY

606 Lyman Ave.
KENOSHA, WIS.



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MR. DEALER: "Keep your eye on Continentals"

READY
New
AND
Lower
Prices

FOR

Continental TIRES

AND

Demountable Rims

For exclusive territory and special agency offer write us or our distributing agents.

CONTINENTAL CAOUTCHOUC COMPANY

Home Office: 1788-90 Broadway, New York City. **J. M. GILBERT, Gen. Mgr.**

BRANCHES: Detroit, 226 Jefferson Avenue. San Francisco, 422-4 Van Ness Avenue.

DISTRIBUTING AGENTS:

Acme Rubber Co., 925 Jefferson Ave., Toledo, Ohio.
Centaur Motor Co., 59 Franklin St., Buffalo, N. Y.
Martin-Evans Co., 1186 Bedford Ave., Brooklyn, N. Y.
Excelsior Supply Co., 237 Randolph St., Chicago, Ill.
Jas. L. Gibney & Bro., 211 N. Broad St., Phila., Pa.
Newstadt Automobile & Supply Co., 3948 Olive St., St. Louis, Mo.
Plant Rubber Co., 322 First Ave., North, Minneapolis, Minn.
Revere Rubber Co., 700 Baronne St., New Orleans, La.
Sammis & Downer Co., Huntington, L. I.
The Post & Lester Co., 821 Boylston St., Boston, Mass.
The Post & Lester Co., 175 Asylum St., Hartford, Conn.
Western Continental Caoutchouc Co., 1438 Michigan Ave., Chicago, Ill.

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"Firestone"

Resolution

It is Resolved: That during the coming year we will increase our already established reputation as makers of Superior Quality Pneumatic Tires. It is further resolved that we will not allow the High Quality of Firestone Tires to depreciate but instead will put forth our greatest efforts to make them better than ever before.

Our Ability to carry out this resolution is backed by the finest equipped and largest exclusive tire factory in the United States, operated by an organization where every man on the pay roll is a producer and knows his business.

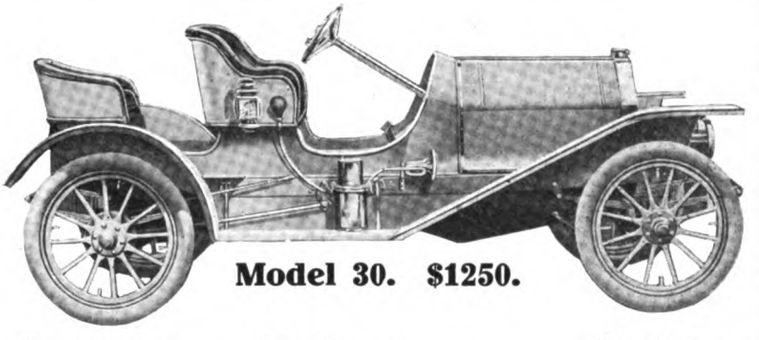
FIRESTONE TIRE & RUBBER CO.

Main Office and Factory
Akron, Ohio

Branches and Agencies
Almost Everywhere

1909 Overland

"ONLY PEDALS TO PUSH"



Model 30. $1250.

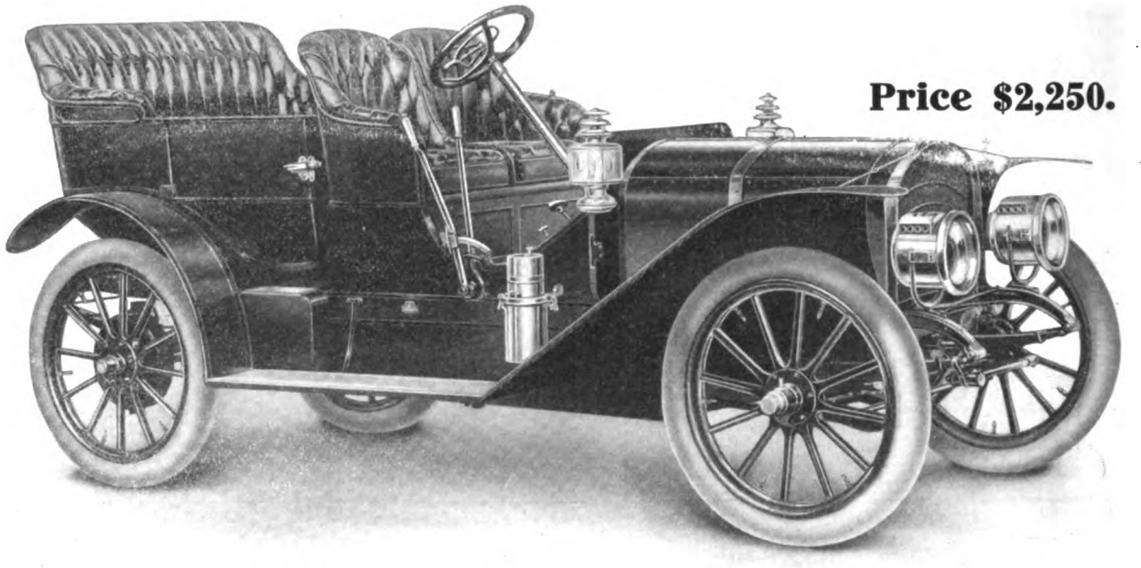
The Simplest The Neatest The Quietest
The Most Reliable The Most Fully Equipped The Cheapest
Roadster on the 1909 market.

WRITE FOR SPECIFICATIONS TO

OVERLAND AUTOMOBILE COMPANY, Indianapolis, Indiana

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Rambler



Price $2,250.

THE ADVANTAGES OF THE OFFSET CRANK SHAFT

Here is a simple explanation of the offset crank shaft, the great power developing feature of the Rambler.

Notice a man about to mount a bicycle. He always adjusts the pedal in that position where it will receive to best advantage his full weight on the first downward stroke. The best position for the pedal is just slightly forward of the center of the crank shaft on the bicycle. If he mounted when the pedal was directly over the center of the crank shaft, his weight would fall directly on the bearings and the first downward stroke would be retarded and, therefore, weak.

Now imagine the man's leg as the piston of an automobile engine; the pedal of the bicycle as the crank pin and the crank shaft of the bicycle as the crank shaft of the engine. In the ordinary engine the crank pin and piston (the pedal and the man's leg) are directly over the dead center and until the crank passes the turning point all effort is wasted. Thus, when the explosion occurs, the greatest force falls upon the bearings.

In the Rambler engine at the instant the explosion occurs above the piston the crank pin has moved past the dead center; the crank shaft is in a position to receive the full pressure and turns without friction. Consequently there is no side thrust of the piston and wear on the cylinder walls is thus saved.

Try this Rambler on the hills and notice how steadily and powerfully it pulls when running under load.

Tell our nearest representative to call at your home and take you to your place of business in a Rambler.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco.

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THE MOTOR WORLD

Volume XVIII. New York, U. S. A., Thursday, September 24, 1908. No. 26

ORDERS OLDS'S LICENSE CANCELLED

Court Grants Motion Actuated by A. L. A. M.—Petition Suggests Why Buick Escaped Precent Action.

In response to the expressed desires of the Association of Licensed Automobile Manufacturers, the receivers of the Electric Vehicle Co., as owners of the Selden patent, lost no time in applying to the United States Circuit Court in Newark, N. J, for authority to cancel the license of the Olds Motor Works. The petition was promptly filed and on Tuesday last, 22d inst., the court signed the necessary order and as a result after a few formalities are complied with, the Olds company will cease to be a Selden licensee and a member of the A. L. A. M.

The Motor World's exclusive story that the A. L. A. M. had taken action to this end and also to sue both the Olds interests and the Buick Motor Co. for royalty arrears proved such startling news that it was not generally credited. At that time it was not plain why the movement to cancel Olds's license did not extend to Buick, but light apparently is shed on the situation by the petition filed in the Olds case. It discloses that under the terms of the agreement between the association and the Electric Vehicle Co. the former can demand the cancellation of the license of only one of its members each fiscal year, which license, upon vote of at least three-quarters of the members of the association, the company is required to cancel. The fiscal year being from October 1st to October 1st, it is obvious that within a very few days the licensed members will be in a position to demand the revoking of another license if they see fit.

In addition to citing this hitherto not generally known item in the agreement, the petition which was granted on Tuesday last set forth that the Olds Motor Works was granted a license under the Selden patent, subject to certain supplementary agreements with the A. L. A. M., among which was that the royalties under the patent should be paid promptly. The license itself also provides for prompt payment of royalty. It is alleged that the Olds Motor Works has not paid its royalties under the patent for the quarters ending January, April and July; the amount due is not known, as the Olds company has rendered no accounting for the periods. The petition further recited that on September 3 the A. L. A. M. by more than a three-fourths vote demanded that the Electric Vehicle receivers cancel the Olds license, and asked the court's direction in the premises.

As stated, the court signed an order directing the Electric Vehicle receivers to cancel the license, it being transmitted to the E. V. receivers, who in turn will make official notification to the Olds company.

Cook and Tweedy Join Federal.

Otis R. Cook, for many years with the Goodrich company and at present with the Firestone Tire & Rubber Co., Akron, Ohio, has engaged to become general manager of the tire department of the Federal Rubber Co., Cudahy, Wis., which department recently was established. Cook will move from Akron to Cudahy on October 1st. Osborne S. Tweedy, former manager of the Diamond branch in Chicago, also will join the Federal staff in the capacity of sales manager. The Federal company will manufacture tires of all sorts, both pneumatic and solid rubber, in addition to a full line of accessories.

New Buggy Company Adopts Old Name.

The Motor Buggy Co. has secured a factory on Columbia Heights, Minneapolis, Minn., and is scheduled to commence manufacturing operations on October 1, under the management of Superintendent Jacobson. In spite of the fact that the name "Acme" has had automobile employment elsewhere for some time, the concern promises to produce the Acme roadster, a buggy type machine of low price.

RECEIVERS ANTICIPATE CREDITORS

They Ask and Obtain Authority to Pay Another 25 per cent. Dividend—Six Claimants are Debarred.

Anticipating the pending motion of certain creditors, the attorney for the receivers of the Pope Mfg. Co. on Tuesday last, 22d inst., obtained from the Chancery Court of New Jersey, an order authorizing the receivers to pay to all creditors a third dividend of 25 per cent. The money will become available as soon as it is transferred from the various jurisdictions in which it reposes.

On the same day, the Chancery Court upheld the receivers in disallowing the claims of the B. F. Goodrich Co., Beech & Sweet, the Curtis-Williams Auto Co., C. M. Childs & Co., the Dodge Motor Vehicle Co. and Fickling & Co. Vice-Chancellor Howell entered an order which prohibits these concerns from appealing from the action of the receivers.

It is understood that the Pope receivers have effected a compromise with the Unzicker claimants and thereby removed another large obstacle to the final settlement of affairs. The Unzicker claim, as will be recalled, amounted to some $500,000 being the amount of an unexpired term, 17 years, of the lease of the former Western Wheel Works factory in Chicago.

While the New Jersey courts were busy with Pope affairs, the Federal Court in Indiana confirmed the sale of the Pope-Waverly plant in Indianapolis, which thereby will pass to the interests represented by H. H. Rice and Wilbur C. Johnson, the present managers of the plant. Their offer, the acceptance of which now is fully authorized, was $200,000. The monthly report of the receiver is filed with the petition, showing the receipts for August sales to be $29,800.36. The total receipts, which include a balance of $116,873.26 on hand August 1, were $146,708.17. The expenditures were $18,024.85.

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The Week's Incorporations.

Corsicana, Tex.—American Motor Co., The, under Texas laws, with $6,000 capital.

New London, Wis.—New London Auto Co., The, with $5,000 capital. Corporators—A. Falkenhainer, W. J. Sader and H. R. Furst.

Philadelphia, Pa.—Penn Motor Car Co., under Delaware laws, with $100,000 capital. Corporators—J. H. Hughes, J. L. Wolcott, Dr. L. A. H. Bishop.

Dayton, O.—Auto Motor Mfg. Co., under Ohio laws, with $10,000 capital. Corporators—Frederick C. Nickol, Joseph Sherard, Frank Krause, Jacob Sammet.

Boston, Mass.—Kissel Kar Kompany, under Massachusetts laws, with $30,000 capital. Corporators—C. T. Small, Malden, Mass.; C. B. Stecker, Boston, Mass.

Boston, Mass.—Taxi Co., under Massachusets laws, with $200,000 capital; cab and truck business. Corporators—F. Tudor, Needham, Mass.; C. G. Whitcomb, Holbrook, Mass.

Wilmington, Del.—W-D Spring Cushion Tire Co., under Delaware laws, with $250,000 capital. Corporators—E. E. Walton and C. R. Hill, Philadelphia, Pa.; H. W. Davis, Wilmington, Del.

Brooklyn, N. Y.—De Shaw Motor Co., The, under New York laws, with $10,000 capital. Corporators—Frank H. Clark, S. W. Bates, Charles De Shaw, Walter E. Vogt, Brooklyn, N. Y.

Newark, N. J.—Pope Hartford Automobile Co., under New Jersey laws, with $50,000 capital; to manufacture automobiles. Corporators—Benjamin C. Fincke, Henry E. Holt, Charles A. Dickson.

Bridgeport, Conn.—Aston Motor Car Co., The, under Connecticut laws, with $10,000 capital; to manufacture, rent, repair and deal in automobiles. Corporators—T. R. Aston, M. A. Hall, G. E. Morton.

Newark, N. J.—Owners' Repair & Maintenance Co., under New Jersey laws, with $10,000 capital; to manufacture automobiles. Corporators—S. Raymond Clark, William L. Du Radway, Russell B. Matthews.

New York City, N. Y.—Frawley Taxi Co., under New York laws, with $100,000 capital; to manufacture, rent, sell and store automobiles, etc. Corporators—P. J. Frawley, H. Kellersohn, P. L. Kiernan, New York City, N. Y.

Chicago, Ill.—North Shore Garage, under Illinois laws, with $5,000 capital; to manufacture, repair and deal in automobiles and automobile parts. Corporators—John F. Fisher, A. K. Jorgensen, William E. Nelson.

Newark, N. J.—United Automobile Dealers' Association, under New Jersey laws, with $20,000 capital; to manufacture automobiles. Corporators—S. Raymond Clark; William L. Du Radway, Russell B. Matthews.

Buffalo, N. Y.—Chester Auto & Tire Filling Co., under New York laws, with $50,000 capital; to manufacture compounds for filling rubber tires. Corporators—T. Chester, Sudbury, Pa.; A. J. Chester, H. C. Harrison, Buffalo, N. Y.

Camden, N. J.—James Leckie & Son Co., The, under New Jersey laws, with $250,000 capital; to manufacture and deal in gas, gasolene engines and automobiles. Corporators—Frank R. Hansell, John A. MacLeod, George H. B. Martin.

Trenton, N. J.—Textile Rubber Co., under New Jersey laws, with $50,000 capital; to manufacture fabrics for automobile tops, etc. Corporators—A. W. Ireland, New York City; N. Y.; F. E. Sincere, Brooklyn, N. Y.; I. Thatcher, East Orange, N. J.

Charlotte, N. C.—Southern Automobile Co., The, under North Carolina laws, with $25,000 capital; to manufacture and deal in automobiles and bicycles. Corporators—J. W. Zimmerman, J. H. Ross, E. B. Littlefield, P. P. Zimmerman and J. H. Harn.

Pence to Enter the Jobbing Trade.

In connection with the expansion plans of the Pence Automobile Co., of Minneapolis, Minn., it is announced that the concern will go into the jobbing of supplies and accessories on a large scale, with a view to covering the Northwestern States. The company has just purchased a $60,000 piece of land on which is to be erected a $75,000 concrete, six-story building which will serve to accommodate the sales rooms, garage, manufacturing department, repair department, stock room and warehouse which will be needed in connection with the plans for the future. From 100 to 150 men will be employed, together with a number of travelers, and the concern will distribute the Buick car in Minnesota, North and South Dakota, Montana and Western Wisconsin. H. E. Pence, of the company will shortly make a round of the Eastern factories with a view to selecting his jobbing lines.

Bartholomew After Additional Plant.

Overflowing its present factory on Fredonia avenue, the Bartholomew Co., of Peoria, Ill., is negotiating for the plant on Peoria Heights formerly occupied by the Sieberling company and later by the St. Louis Motor Car Co. When the latter concern went into bankruptcy all of the machinery was sold and taken out of the buildings, but the latter remain ready for easy rehabilitation into an automobile factory.

Columbus Firm in Receiver's Hands. ..

H. C. Moore has been appointed receiver for the R. O. Williams Automobile Co., of Columbus, O. The application for the receivership was made by E. L. Pease and Edward Cargill, who as receivers for the Broad-Oak Rink and Automobile Co., claim that the Williams company is not paying its rent for the use of the garage building which it occupies.

In the Retail World.

O. E. Steinbaugh has obtained the Rambler agency for Dallas, S. D. He will conduct a small garage business as well.

The Overland Motor Car Co., of New Jersey, with headquarters at East Orange, has been given the entire State of New Jersey on the Overland line.

The Marinette Auto Co., of Marinette, Wis., has moved into larger quarters in the Cook building. The new garage has been fitted with very complete equipment for handling cars of all types.

The Wilmington Automobile Co., the Franklin agents in the Delaware city of that name, are erecting a large garage and salesroom at Delaware avenue and Tatnall street. It is of two stories, 83 by 114 feet.

T. F. Newman's garage at 1857 East Eighty-second stret, Cleveland, O., was destroyed by fire last week as the result of a gasolene explosion. Testing batteries too near a pail of fuel was assigned as the cause.

The Algonquin Garage has leased for a long term the building to be erected in the north side of Sixty-sixth street, west of West End avenue, New York City. Arthur Coombs and Ernest Gogin are the proprietors.

Harry S. Leyman, formerly assistant general manager of the Pope Motor Car Co., and later with the Buick company, has taken the Buick agency in Cincinnati. He will establish a salesroom and conduct the business in his own name.

The Twin City Automobile Exchange, a new concern, has leased the brick building at 10½ Sixth street, S., Minneapolis, Minn., as a salesroom, garage and repair shop. W. H. Raisbeck and F. W. Starr, from Dubuque, Iowa, organized the company.

R. S. Crawford, who formerly built the Crawford car in Hagerstown, Md., has abandoned manufacturing for retailing. He has removed to Boston, Mass., and joined with George H. Lowe, the old and well known Boston dealer, in the formation of the Crawford & Lowe Co., which will handle the Gyroscope car in New England.

The Coit Automobile Co., is a new entrant in the agency field in Omaha, Neb. It has taken the Rambler and Mitchell lines. J. C. Coit is vice-president and general manager; Dick Stewart, president; and Miss Ella J. Brown, secretary and treasurer. Temporary quarters have been engaged at 2025 Farnam street, pending the completion of a new garage.

In addition to handling the E-M-F car in New York City, it transpires that the H. J. Koehler Co. have secured a large slice of territory on that line, viz.: New Jersey, Eastern Pennsylvania, southeastern Connecticut and fourteen counties in New York, including Long Island. The Koehler order is said to call for 1,000 of the E-M-F cars.

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NEW DODGE IN PRICE CUTTING

Reputable Chicago Firm Organizes a "Club" for Customers—Reducing Maintenance Expense the Excuse.

In an effort to meet cut price competition without descending to open cut price methods, the Joseph F. Gunther Co., of Chicago, Ill., which handles a well known and high grade car and otherwise ranks with the most respectable of the Windy City automobile concerns, has devised an ingenious technical dodge for placating customers who are restive under full list prices for supplies and accessories and who insist on taking advantage of some of the cutting that is being done here and there. The scheme takes the form of a "club" to be known as the "Owners' Supply Department," to which customers are eligible to "membership" by the payment of a $10 initiation fee. The value of "membership" lies in the fact that the "members" are granted substantial discounts from the regular prices on motor goods.

The reasons given for the establishment of the "Owners' Supply Department" are not that it provides an apparently graceful way of cutting prices without opening up as a cut price house, but that the plan provides "a feasible method of demonstrating the decreased expense of maintenance and repair," it being offered in extenuation that "one of the most serious obstacles with which the automobile dealer has to contend is the widespread opinion that the first cost of the motor car is nothing compared with the subsequent expense," and that because of the poor success heretofore in disabusing prospective customers of this idea and because of the number of sales thus lost, some method of showing that the cost of running a car could be brought down to very favorable figures was necessary.

To be a "Great White Show."

Whatever may be the attractions of the "Great White Way," which is credited with constituting no small part of the lure of Manhattan, its splendor is to be rivaled for a week by the "Great White Show," with 10,000 electric lights, fabric firmament of Italian sky blue, paintings, mirrors, statuary, gilt, stained glass, silkiline draperies, ornamental pillars, and a garden of natural plants and flowers. For be it known, the American Motor Car Manufacturers Association's show in New York, which will open New Year's night, is to be so adorned as to merit the "Great White Way" designation.

Taking a leaf from the book of successful showmen, not all of the exhibition will be concealed back of the ticket gate, the public being given a free outside "teaser" which is calculated to draw the crowds and make the affair known to anybody who comes within several blocks of the big Lexington avenue building. The port cochere and entrance are to be treated with handsome cast figures, balustrades, brilliant electric signs and a large painting, the whole to be played upon by the beams of searchlights.

As will appear from the accompanying illustration, the decorative scheme at the entrance partakes of the nature of an arch, and should prove an atractive invitation to go in and view the wonders inside the building. The prevailing key of the interior decorations is of the early English period,



PORTICO TO THE PALACE SHOW

having pillars and balconies, of stucco and beam work. The main galleries will be white with sap green, relieved by gilt signs. A series of paintings entirely around the balconies will depict scenes from recent automobile contests. Ornamental standards will support the glass signs with pennants which are to be provided for all exhibitors and which are to be illuminated with concealed incandescents. Ten heroic statues, eight feet in height, are to be disposed about the exhibition, and satin banners and elaborate draperies will set off the accessories exhibits.

Melon Cut for Reo Employes.

In addition to substantial dividends to its stockholders, the Reo Motor Car Co., of Lansing, Mich., has beclared a dividend for all employes who have been with the company for a year or more, in accordance with the co-operative plan which last year resulted in a similar distribution. The dividend is 5 per cent. of the salary earned during the past year, amounting to about two and a half weeks' extra pay, and applies to over 700 men.

Mooers Joins the Aerocar Staff.

L. P. Mooers, the well known engineer, has joined the staff of the Aerocar Motor Co., Detroit. He will, of course, fill the posts of engineer and designer.

SEES FAULTS IN FOREIGN CARS

Jeffery Gives His Observations on European Practice—Why He did not Ride to a Tin Mine.

Although Thomas B. Jeffery, of T. B. Jeffery & Co., who recently returned from a three months' tour through Scotland, England and Germany, traveled primarily for recreation he also spent some time investigating the methods of foreign manufacturers of automobiles. The opportunities embraced by Mr. Jeffery of riding in cars of foreign make incidentally brought to light a number of interesting and instructive points.

"Some good cars are built abroad," said Mr. Jeffery in discussing his observations, "but they do not build them as well as we do to sell for a price within reach of the average man. All foreign cars are very high priced. They are very heavy, little effort being made to reduce the weight and prices are high, partly for the reason that the production is small and components of many foreign cars are made by a number of different manufacturers and merely assembled by the one who sells them. This is costly and the foreign maker will not cheapen his product as some American makers do by buying cheap parts just to allow for selling at a low price."

The Rambler builder tells of an interesting incident which occurred in England. Mr. Jeffery hired cars of various makes when he wished to make local trips on several occasions. While in England one day he was riding in a car of very high price, and in passing along the road noticed a tin mine a short distance from the main highway; a rather rough road ran to this mine. When he asked to be taken up the slight grade to a point where he could view the operations, the chauffeur told him that the car could not negotiate the climb, because the rocks in the road would tear the lower portion of the car to pieces. Upon investigation he found that the clearance was so small that this danger was really imminent. American cars, built with as liberal clearance as the Rambler, will safely pass over obstacles ten inches in height.

Miller Resigns and Burwell Succeeds.

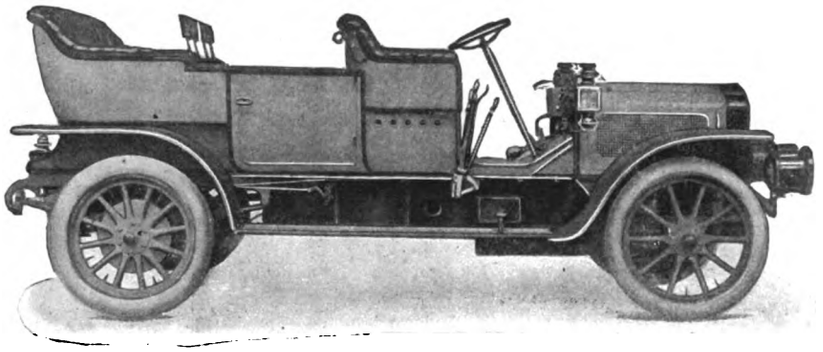
William J. Miller has resigned as vice-president and superintendent of the Oscar Lear Automobile Co., of Springfield, O. In the capacity of superintendent he has been succeeded by George Burwell, who gained his experience at the Olds Motor Works in Lansing, Mich.

Buick May Launch High Wheel Buggy.

According to apparently well founded reports, the Buick Motor Co. is preparing to launch a high wheel motor buggy. It will be of 12 horsepower and list at $450.

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THE 1909 WHITE STEAM CARS



During the coming season, the White Steam Cars will be built in two distinct models which, while differing widely in size, in power and in price, will follow the same general lines of construction. The horse-power ratings of these cars are based on the actual power delivered at the rear wheels, not merely on formulas or on the power delivered at the engine.

The larger of the new cars (shown in the above illustration) is known as the Model "M." It is rated at 40 steam horse-power and sells for $4,000, f. o. b. Cleveland, equipped with acetylene headlights and tank, oil lamps, horn and tool kit. The wheel base is 122 inches; the front tires 36 x 4 inches and the rear tires 36 x 5 inches. The car is regularly equipped with a straight-line seven-passenger body.

The smaller of the cars will be known as the Model "O." It is rated at 20 steam horse-power and sells for $2,000, f. o. b. Cleveland, equipped with oil lamps, horn and tool kit. The wheel-base is 104 inches and the tires, both front and rear, are 32 x 3½ inches. The car is regularly equipped with a straight-line five-passenger body.

The power plants of the two models are identical in design, the only difference between them being in the dimensions of the various parts. The principal mechanical change in the new cars, as compared with previous White models, is in the engine. The new engine is fitted with the Joy valve mechanism, instead of the Stephenson valve mechanism. The valves are driven from the connecting rods, as are the pumps. The eccentrics are done away with and the cylinders are brought close together, permitting the use of a short one-piece crank-shaft, with but two main bearings. The number of parts in the engine is reduced by one half and the entire construction greatly simplified.

As in previous models, the generator — the simplest steam-making device ever designed — consists simply of a series of coils of steel tubing joined together. The regulating system, whereby the temperature and pressure of the steam remain constant without in any way engaging or requiring the attention of the operator, is similar to that in the 1908 cars.

A circular containing full details of the new models will be sent on request.

THE WHITE COMPANY

CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.
PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.
SAN FRANCISCO, 1460 Market St.
ATLANTA, 120-122 Marietta St.

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The Sale of a Birthright.

Although the American Automobile Association has sold its birthright for very much less than a mess of pottage, it is not possible to believe that the terms of its settlement of its alleged controversy with the misnamed Automobile Club of America will settle much if anything for any considerable length of time.

Doubtless it will please and profit the Long Island Motor Parkway corporation, in which men on both sides of the squabble are deeply interested financially, as greatly and as deservedly as it will displease the A. C. A.'s acrobatic "man Friday," the Savannah Automobile Club; but it is unthinkable that such truly American clubs as those which exist in Boston, Buffalo, Newark, Philadelphia, Chicago, Kansas City, and elsewhere, and which approximately are as large and important as the local garage-keeping New York organization will tamely submit to its dictates or dominion, even though it may hold credentials as the American agent for all Europe. We do not believe such clubs will accept the sop of free sanctions, which the New York club is throwing to them, and to all others, in an effort to enlist support and recognition, and thereby render themselves subservient.

We hope and believe that such clubs will lose no time in repudiating both the disgraceful settlement and the men responsible for it and in placing in power men able to distinguish their duty to the national organization and who do not shy at shadows or haul down the flag at the first sign of trouble.

We believe that the bad faith of the New York club ultimately will be convincingly demonstrated. Its offer of gratuitous sanctions is the first sign of it. It will be further shown by its disregard for foreign limitations and other foreign rules as applied to open races or contests, or even specifically announced international events, which was the ostensible but not real principle for which it contended. It simply cannot and dare not attempt generally to enforce such rules in this country; and when it fails to do so its emptiness and bad faith will be revealed. It if does attempt to enforce them, we do not believe any club in America will give it heed and its impotency will become as apparent.

Ancther Phase of Standardization.

To those makers whose product has been the result of slow and painstaking development rather than elaborate, simultaneous design and whose operations are conducted on a somewhat modest scale, the advantages of absolute interchangeability of parts must be viewed in the light of a somewhat expensive luxury which as a pure investment, may be regarded as of questionable profit. Granted a car which is "making good" on the market, as the phrase goes, and which requires only trifling modifications from year to year, it is evident that to standardize it completely, must involve a complete recasting of the design, and what is practically the construction of an entirely new car along the lines of the old. On this account, the maker whose output is limited and who is not at liberty to sink any considerable amount of capital in the production of an entirely new model, is quite excusable in holding back, despite the fact that standardization as a principle constitutes one of the broadest economies known to industrialism.

As a matter of fact, it may be questioned whether it would pay to rebuild any sort of machine merely for the sake of standardizing its parts unless it were an established and staple design likely to be granted long continuance on the market. Usually the large makers who have adopted the principle to its practical limits have done so chiefly in the production of new types, and as gradually as possible. It is in this way that the maker whose production is confined to only one or two models built in limited numbers also may avail himself of its advantages.

Whenever it becomes necessary for any reason to alter the design of any part of the machine its reconstruction may proceed on the principle that whenever possible parts already in use on the machine may be duplicated. Thus bolts and studs, pins and special screws, even rods and other connecting linkages, may gradually be standardized, it being evident that every time the production of a part is multiplied by two or three, its cost is reduced in some proportionate amount. By this gradual means two or three seasons will suffice to bring a machine to a state of reasonable and sane interchangeability while its salient features may even remain practically unchanged so far as appearances are concerned. The process thus effected has involved no elaborate scheming, no costly modification of drawings and processes in the shop, and no experts' fees are to be deducted from the balance sheet. The change merely is the result of the engineer's or designer's own personal efforts, and is brought about by his having constantly in mind the simple principle that wherever it is possible to duplicate the same part or even to duplicate dimensions, in some instances, a small economy is effected. The summation of these little economies is what furnishes the wherewithal to pay the big salary check of the acknowledged production engineer, as well as the big dividends quoted on so many large undertakings.

The Bluff that was not "Called."

It is to laugh! It is small wonder that all of those who espoused the undeserving cause of the so-called Automobile Club of America in its so-called controversy with the American Automobile Association have had need to stuff handkerchiefs into their mouths and to hold their sides when attempting to discuss the alleged "treaty of peace." They are entitled to their laughs—

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to all the good, long, loud guffaws of which they are capable. It is small wonder that Judge W. H. Hotchkiss, president of the A. A. A., a man with a real backbone, is reported to be so filled with disgust as to be on the point of resigning his office. For of all loose-jointed, slab-sided, weak-kneed, jelly-spined, cross-eyed treaties, alliances, agreements, or whatever else it may be styled, that ever were executed, it is impossible to conceive any that is at once so mirth-provoking and astounding as the document signed by the representatives of the "high contracting parties" in issue, the one a local club, the other a recognized national association.

To call it an agreement or a treaty of peace is sacrilege. It is a joke—a sidesplitting conveyance of most of its power and perogatives by the national organization to the local club. It reads as if the Automobile Club had placed its desires on paper and as if the association's representatives had signed in the dark and without reading it. It was near-cruelty on the part of the club to take advantage of virgin innocence by resorting to flim-flam practices and keeping the shells shifting and the pea rolling so that the A. A. A. conferees could not follow the game.

Far from clearing the atmosphere, the settlement befogs it. Apart from the transferal of both the Vanderbilt cup race and the Grand Prize event to interests represented by the Long Island Motor Parkway, the key to the situation is contained in the definition of an international race. In the terms of settlement, this definition is so loosely drawn that not only is a race of the sort declared to be one announced or advertised as international, but any race open to American and foreign entrants; and as all open or free-for-all events invite entries without discrimination, every open race or any program thereby becomes an "international race" and falls under the dominion of New York's local club, which happens to be the American agent of an European organization. As if this were not bad enough, the definition is made apply not merely to races, but to contests generally. This seems to make clear that any program of any sort which includes both open events and events restricted to domestic cars will require two sanctions, one from the New York club, the other from the national association; and thus is confusion confounded. The solitary peg at which the A. A. A. conferees appear to have grasped seems to have bent under their own weight. It is evident that they sought to maintain that the entry of foreign cars owned and entered by Americans shall not constitute an international event, but by adroit use of the pea and the three shells, the A. C. A. made this provision an optional one; the word "may" appears where "shall" was the term necessary to fit the case, even if it could be forced to fit after the stipulation that any open event is an international event.

The definition does not seem to permit of any other construction. If this interpretation is not correct, the parties to the agreement should lose no time in again getting together and presenting explanatory diagrams to assist general understanding.

The humor of the situation is intensified by the fact that most of those who were even reasonably well informed, excepting only the compromisers and "trimmers" and peace-at-any-price men in the A. A. A., were well aware that the Automobile Club of America was playing a gigantic game of bluff assisted by a show of money and by a lot of noise made by several space-fillers and newspaper clairvoyants, most of whom are foreign importations and some of whom were paid by the club for creating the clatter. Despite the hubbub, the club insiders and their helpers knew their anti-American cause was practically hopeless and that they were licked to a finish if only the A. A. A stood by its guns, "called" the bluff and refused to parley; now that peace has been declared, several of the number hilariously admit it.

It probably is the first time in history that a local club has brought a national organization to its knees and placed America in the position of being dominated by an American agent of European government. The A. C. A. was anxious to becloud the real issue and to save the foreign side of its face by obtaining recognition of the European weight and cylinder limitations in the Vanderbilt cup race, and although it resorted to some contemptible tactics in the effort to gain its end, it is not possible not to admire the astonishing success of its bluff—a success that surely was beyond its wildest dreams, even though it points the way to chaos in automobile sport in America.

It is possible to admire and applaud a good bluff or a man or organization that puts up a good fight and loses. There can be no admiration or applause for the man or organization that pitifully turns tail or lays down before the real fight even has commenced.

COMING EVENTS

October 1, Richmond, Va.—Richmond Automobile Club's race meet, Virginia State Fair.

October 1-2, Indianapolis, Ind.—Indianapolis Automobile Trade Association's sealed bonnet endurance run.

October 2, Poughkeepsie, N. Y.—Race meet in conjunction with Dutchess County Fair.

October 2-3, Brighton Beach, L. I.—Motor Racing Association's outlaw 24 hours race.

October 6-9, Chicago, Ill.—Chicago Motor Club's 1,000 miles reliability run.

October 7, 8, 9, Cleveland-Toledo, Ohio—Cleveland Automobile Club's reliability contest.

October 7, Philadelphia, Pa.—Quaker City Motor Club's 200 miles road race, Fairmount Park.

October 10, Long Island—Motor Parkway sweepstakes for stock cars.

October 10, Providence, R. I.—Rhode Island Automobile Club's race meet, **Narragansett** Park.

October 14-16, Cleveland, O.—Cleveland Automobile Club's reliability run.

October 17, Hartford, Conn.—Automobile Club of Hartford's hill climb, Avon Mountain.

October 17, Kansas City, Mo.—Automobile Club of Kansas City's race meet, Elm Ridge track.

October 24, Long Island.—Vanderbilt cup contest.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles outlaw race for foreign cars.

Hooray! "Dunc" Curry, Hearst scout, clairvoyant and "auto editor," says that even if the national organizations do not recognize as official the records made in the 24 hours outlaw race at Brighton Beach, he himself will recognize them; and, of course, nothing more is necessary; the matter is settled for all time! Ever since "Dunc" set out to rescue Fair Fame and went into the clairvoyant business he has been "seeing things." Only a few days ago he read the stars again and imagining himself to be the automobile public, he gravely told a waiting world what it, that is, he, demanded; so it is not so strange that he now should fancy that he is all the national associations rolled into one.

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THIRSY ARRIVE AT MONTAUK POINT

Few Failures in Mechanical Efficiency Run on Long Island—Seasickness After a Plunge Through Sand Dunes.

Thirty of the 37 contestants in the two days' mechanical efficiency test held on Long Island, from end to end, or strictly speaking, from Bay Ridge to Montauk Point, finished the run on Tuesday last, 17th inst. Held under the auspices of the New York Automobile Trade Association, the event was a success from a mechanical and reliability standpoint, although financially it is said to have proven otherwise.

Twenty-six of the starters completed the run with perfect scores. Twenty-two of these were in the contesting division and four in the touring class. The former received clean tallies for both mechanical and time schedule, and will be awarded first class certificates and medals to the drivers. The latter division had clean time schedules and will receive medals for their performances.

The scores were as follows:

Perfect Scores—Contesting Division.

E. H. Brandt, Cadillac.
F. O. Hinhauser, Maxwell.
W. W. Burke, Mora.
R. M. Owen, Reo.
Mrs. Joan Newton Cuneo, Rainier.
L. A. Disbrow, Rainier.
C. A. Kirschhof, Mitchell.
Sidney B. Bowman, Apperson.
J. W. Gogarn, Reo.
Charles Lowd, White.
William Knipper, Chalmers-Detroit.
F. G. Falberth, Oldsmobile.
V. P. Pisan, Zust.
J. W. Mears, Acme.
Frank Dunnell, Ford.
Frank Eveland, Stevens-Duryea.
L. Young, Stevens-Duryea.
H. C. Townsend, American Locomotive.
P. J. Johnson, Amer. Locomotive Taxicab.
A. H. Whiting, Stoddard-Dayton.
W. D. Brown, Mitchell.
Paul Cimiotti, Pullman.

Penalizations—Contesting Division.

	Points.
C. D. Kelsey, Maxwell	Disqualified
Carl Reichenbach, Stev-Duryea	105
O. R. De Lamater, Mitchell	125
C. H. Tangeman, Lancia	1,000
W. W. Price, Brush	1,000

Perfect Scores—Touring Division.

W. E. Shuttleworth, Haynes.
W. J. Wyatt, Oldsmobile.
Mrs. J. R. Ramsey, Maxwell.
Harry Fosdick, Lancia.

Penalizations—Touring Division.

	Points.
H. M. Casbary, Lozier	Disqualified
C. M. Louther, Stevens-Duryea	1,000
R. Newton, Stoddard-Dayton	1,000
Frank A. Burrelle, Autocar	1,000
Harry Fosdick, Lancia special	1,000

Of those penalized in the contesting division C. D. Kelsey's Maxwell was disqualified for taking the wrong road from Montauk Point on the return trip (which really added three more miles to its running distance); Carl Reichenbach's Stevens-Duryea lost 105 points for ignition troubles; R. P. De Lamater's Mitchell was penalized 125 points owing to an oil feed pipe which became clogged and caused trouble with the connecting rod bearing. Lozier entry No. 39 in the touring division, was disqualified for leaving the noon control at Blue Point without checking out, and H. M. Casbary, the driver was debarred from competing in future events held under the auspices of the Trade Association. On the entry blank this driver's name was interpreted as H. M. Casbrunt, and it was rumored that the name was manufactured for the occasion—a combination of two drivers' names or something of the sort intended to disguise the man in case he got into trouble, the car having been sent out to scorch ahead and beat all the others to Montauk and ignore controls. C. A. Emise, who entered the car, states that this was all a mistake; the driver's name, he says, is Casbary, and calling him Casbrunt was someone else's blunder. Under either name, he failed to reach the Point first owing to a broken differential, which caused him to block the whole procession, much to the disgust of the real contestants.

Others who dropped out along the line and did not reach the final checking place until long after the time limit, losing 1,000 points, were: C. H. Tangman's Lancia, W. W. Price's Brush, C. M. Louther's Stevens-Duryea, R. Newton's Stoddard-Dayton, Harry Fosdick's Lancia and Frank Burrelle's Autocar. The last four were in the touring division.

The technical committee required several days to calculate and make public the penalizations which were based on an initial credit of 1,000 points. For every minute late at a control the penalty was one point and for every minute early, two points, no allowance being made for mechanical repair. When a contestant was delayed from tire trouble the time lost in replacing tubes was credited to his running time and he was not penalized, provided his motor had been kept running during the time the repair was being made. For any mechanical adjustment or repair, the penalty was one point per minute spent in repair, per man, i. e., if two passengers worked upon the car in making an adjustment the penalization would be just twice as much as if one person did the work—three men three times as much and so on ad infinitum, provided all were passengers.

The caravan left Columbus Circle, New York, at 7 a. m. Wednesday, and were escorted by the Stevens-Duryea pacemaking car across the bridge to Bay Ridge, L. I., where the cars were officially checked out. This detour of nine miles from Brooklyn, over an extremely dusty section of Long Island, was not appreciated by the contestants to any great extent, when the well-oiled roads of Queens and Nassau counties might have been substituted. But the route had been laid out by the technical committee, composed chiefly of Alex Schwalbach, who had decided that Bay Ridge, where the bay rum comes from, was a few blocks

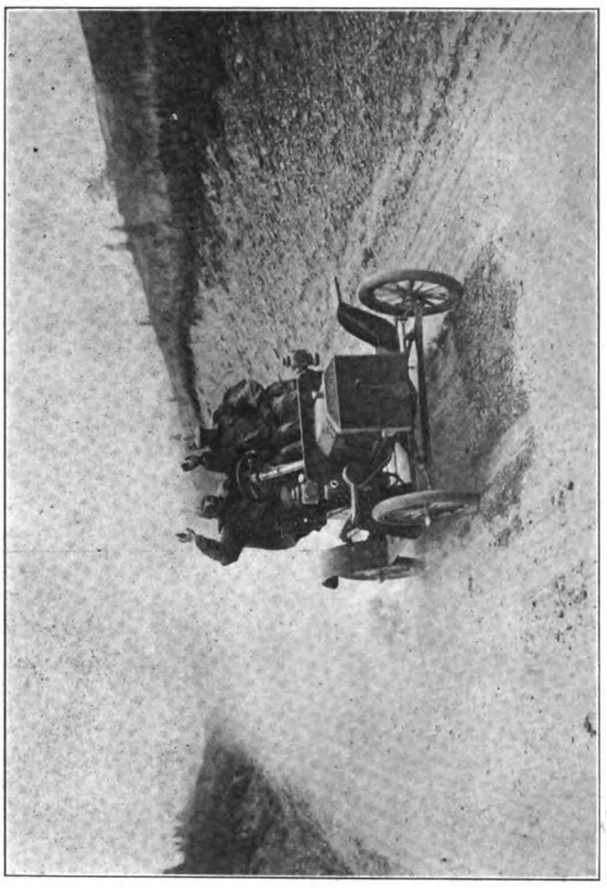


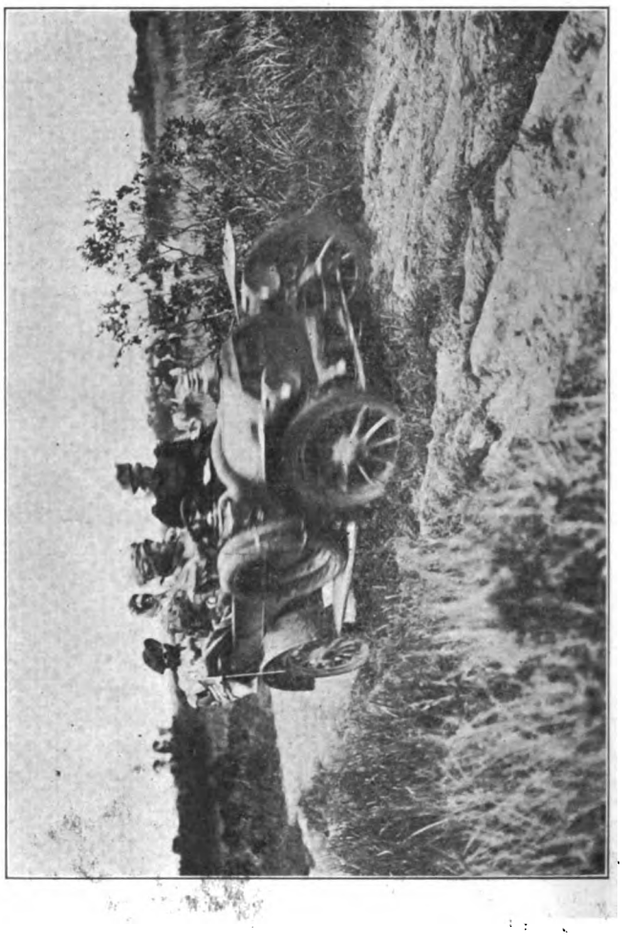
STEVENSON DURYEA, THE PACEMAKER, AT LYNBROOK

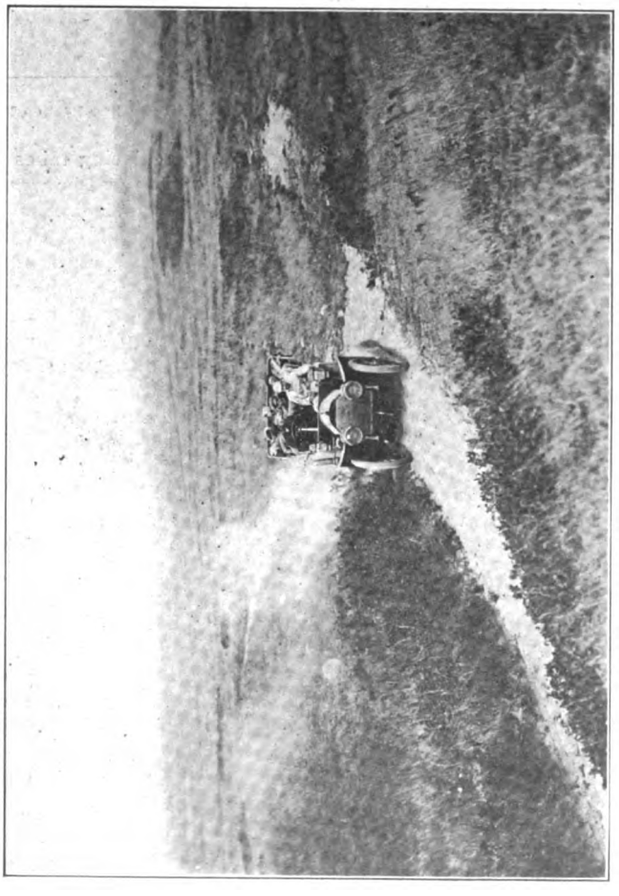


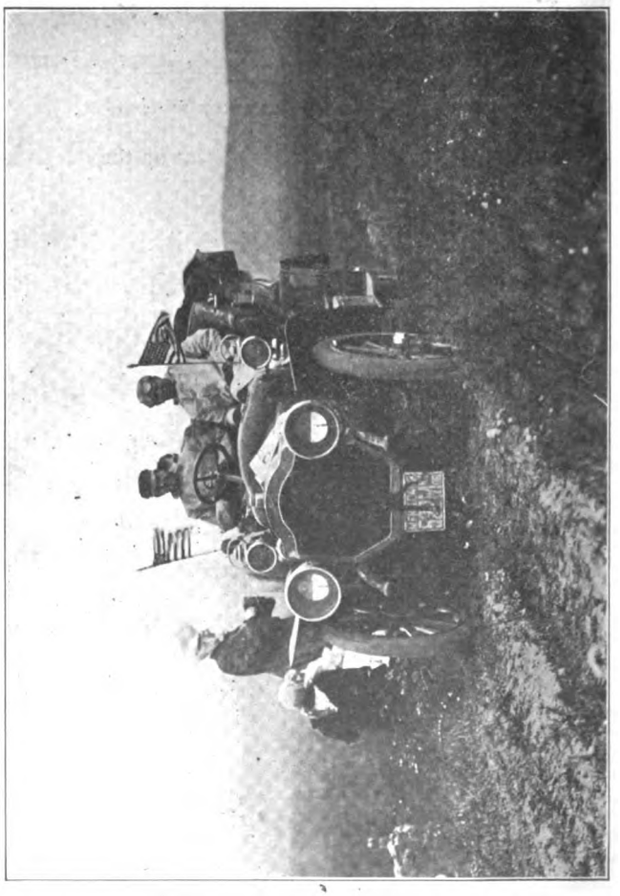
TAKING ON SUPPLIES—CHARLES LOUD, WHITE, IN FOREGROUND

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VIEWS SHOWING THE DIVERSITY OF LONG ISLAND ROADS COVERED IN THE MECHANICAL EFFICIENCY RUN

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west of Brooklyn, according to the colored map, and that dust or no dust, the Ridge was the place for the start.

A few miutes later, with the dust left behind, it seemed like a milk-and-water child's play affair, over the smooth roads through Lynbrook, Merrick, Amityville, Babylon, Patchogue, Good Ground and Southampton, but when Amagansett was reached the drivers changed their minds. Between this place and Montauk Point there was a stretch of thirteen miles of deepest sand that caused all sorts of cussin'. The road diverged in several places that were not marked and as a result the majority of cars took the wrong road and wandered about for some time trying various paths among the sand dunes, getting stuck occasionally and experiencing some tire trouble now and then. Having decided that they were "in wrong" the strayed ones retraced their steps and finally reached the Point anywhere from 20 minutes to an hour late in most cases. Owing to this flaw in the directions, no penalizations were imposed for lateness between Amagansett and the night stop.

Numerous farmers were lined up along this section of the route with teams,looking for easy money pulling stranded contestants out of mud holes and ruts, but the cars managed to take care of themselves and the dealers in crops and summer board did no business.

Montauk Point is a rather isolated spot, jutting out into the Atlantic Pond, and is noted principally for its lighthouse. Few motor cars ever get that far, as the sandy deserts between that extremity of Long Island and Amagansett have quite a villainous reputation. Mudholes with their mud turtles also are frequent in these latitudes. A little more than a year ago, the Long Island Automobile Club held an endurance run to this cape and many of the contestants stuck in the little grains of sand and despaired long before the blue ocean beyond the point could be seen.

One of the first cars to fall in last week's test was a non-contesting Lozier car driven by H. M. Casbary, which cracked a differential. A Stoddard-Dayton, with R. Newton as pilot, plumped into a hole and smashed a wheel and W. W. Price's Brush runabout stripped its gears. The Continental Caoutchouc Co.'s Knox also became stranded and did not report at the Point.

Among the contestants were two women drivers—Mrs. Cuneo, of course, and Mrs. J. E. Ramsey, of Newark, both of whom went through with perfect scores. Mrs. Cuneo would not carry a mere man in her Rainier Glidden tour perfect score veteran, but loaded it with feminimity instead; and they made good time, too.

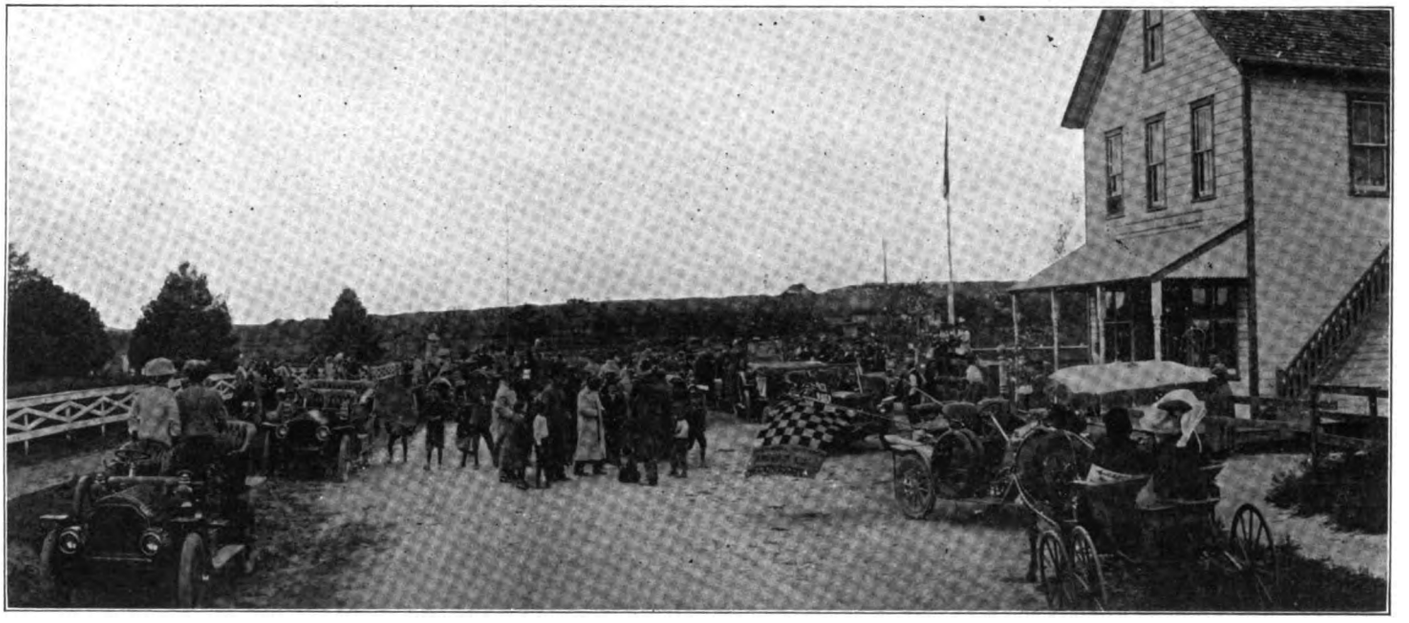
The Long Island R. R. steamer "Shinnecock" was provided to "accommodate" the tourists over night, as Montauk did not possess sufficient shelter for the small army and if the afternoon's run was strenuous, the interval between bed time and dawn was more so. The old boat was made fast to the dock and it proceeded to cut up high jinks in the swelling waves, banging against the wharf every two seconds. Then a very promising nor'wester sprang up and blew across Fort Pond Bay and almost made a low comedy revolving ship of the "Shinnecock," such as has been seen in vaudeville. Nearly everyone was willing to confess they had experienced a sad case of mal de mer before morning, and those who would not admit it were seasick just the same.

When dawn broke, a very crafty scheme was worked by the dear steward. Everyone had to pay one dollar for breakfast in advance before entering the dining room. When they saw the food, in nearly every case something would cause them to decide they were not hungry and—well, when motorists had departed, Mr. Steward had nearly all their breakfasts and their money, too.

The return trip through the sand dunes was not as hard as the outgoing journey. At Good Ground, the cars switched over to the hillier north shore, stopping at Riverhead for luncheon on the fair grounds; the stop was appreciated by those who had not breakfasted, and also by the country folk who obtained a free show without extra charge. On the last leg of the run the hilliest section was encountered, but the going was comparatively easy and troubles were few and far between. Passengers now could get a little sleep.

The last time control of the run was at Flushing, and the cars were permitted to loaf the rest of the way into New York and up to the Automobile Club of America, the official finish. The first two cars to check in at the wind-up were the two Stevens-Duryeas driven by L. Young and Frank Eveland, who reached the club house in West Fifty-fourth street at 6:50 p. m., while the last to arrive was J. W. Mears, in the Acme, who did not get in until 2:07 G. M., in the chill gray dawn of the following morning. Tires had delayed him slightly.

A plucky run was made by Earle L. Ovington, who rode an F. N. motorcycle and got as far as Montauk with a clean score. Two miles from Amagansett, the deep sand forced him to leave the "road" and run the rest of the journey on the L. I. railroad tires. While doing this he slipped down an embankment and got considerbly scratched up, but he reached the Point in

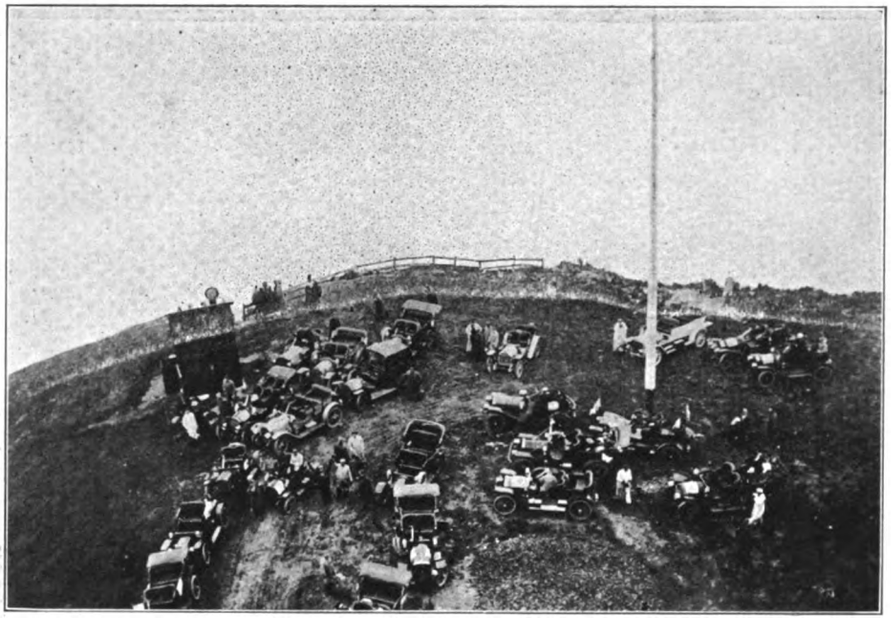


THE AMAGANSETT CONTROL—BEFORE PLUNGING INTO THE SAND DUNES

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good time. The next morning he found that nearly all of his spokes had been broken by the hammering they received on the ties and he decided to ship his machine back to the city.

"Wally" H. Owen did quite a stunt with the official Garford car. On a wager, he drove the entire distance with his broken right arm in a plaster cast. He managed the steering wheel with his left hand and manipulated the brakes and change-speed gear levers at the side with his feet. In view of the deep sand and hills necessitating a great deal of gear shifting, it was a remarkable undertaking. He was not a bit cautious in his driving either, for he went at top speed wherever possible.



AT THE TIP END OF LONG ISLAND—VIEW FROM LIGHTHOUSE

Lowell Wants Annual Road Races.

Lowell, Mass., "has it bad," to use the classic phrase. The recent road race there has wrought up the Lowell club and public to such an extent that they are quite crazy over motor racing and want to hold no less than three big speed contests a year on the Merrimac Valley course. Memorial Day, Fourth of July and Labor Day are the three holidays proposed. J. H. Tyson has offered to put up a $5,000 cup for the next Labor Day race, and while this contest probably will be an annual feature in the future, the Lowell folks "want more."

Virginia Farmers to See Races.

In connection with the State fair in Richmond, Va., a race meet, under the auspices of the Richmond Automobile Club, will be held on October 10. Two ten miles events for stock runabouts, a 50 miles race, two 10 miles events for stock touring cars, and a motorcycle race will comprise the card. Entries close on October 5 with Dr. H. W. Bassett, Richmond, Va.

BITTEN, BUT NOT BY SNAKES

Man Who Advertises Marvelous Bargain Gets the Worst of It—Supposed Customers Prove to be Sleuths.

Edward F. Moore was afraid of snake bites, feared journeying home in the dead of night, had an automobile for sale, and things. Now he is in trouble. A few days ago he inserted an advertisement in a New York daily paper which has a circulation of about 1,000,000,000, that he had a car valued at $4,250 for sale at the great sacrifice of $1,200. He sat calmly in his room in West Ninety-eighth street, awaiting replies and got loads of them. But what he wanted was to see the prospective purchasers call at the address with the $1,200.

At length, two gentlemen with large feet, detectives by profession, visited Moore, as they were motor enthusiasts—both of them. They began to discuss the automobile which was neither in the flat nor out on the curb. The machine was described in glowing terms and the prospective buyers were intensely interested. It had planetary sliding gears, a six-cylinder two-cycle motor and the cylinders revolved on their axes perfectly; was equipped with a steam heated radiator and soot-proof plugs that never let the water leak out; best single-tube tires, a float feed carburetter on the floating rear axle, et cetera.

"Have a drink, Old Scouts," said Moore, but the sleuths were members of the W. C. T. U. and did not indulge. Instead, they arrested the Moore chap. In addition to the whiskey—vile stuff—in his clothes, he possessed a couple of gray wigs, several tubes of chloral, morphine and a few other narcotics, together with a hypodermic syringe. These were not used for any sort of experimental work on the car, as might be supposed. Instead, according to Moore they were for snake bites when he went hunting out in Central Park and elsewhere. He feared reptiles.

In his pockets were found numerous communications from out of town "clients." Whether any of these had tasted his booze or bought the "car," was not known. This is another variation of the "bring your cash when you call' game, which we have always had with us. Some day flying machines will likely be "sold" in this same way.

Cause and Cure of Clutch-Slip.

Clutch-slip in the case of the multiple disc type of connection is almost invariably traceable to lubrication difficulties. In cases where only a single grade of oil has been used in the clutch and that is of the best possible variety it is quite likely that the lubricant has become "worn out" through long use or that it has dried slightly, the result being the formation of a thin film of oil on the faces of the discs which does not yield to pressure and squeeze out when full engagement is desired. The obvious remedy is to open the casing and thoroughly flush out the parts, in some cases a complete dismantling and cleaning of the parts individually being desirable. The more obvious methods of increasing the tension on the spring, or of replacing it by a stronger one is seldom of avail. Only where the cleaning method has been found inadequate is the use of increased tension or a stronger spring found to be advisable.

Big Increase in French Registration.

Returns from the total registration of motor cars in France show that 37,586 cars are in use in the country at the present time. The corresponding figure for last year was 31,286. One-fourth of the cars at present registered are in the Department of the Seine, the total for which has been increased by no less than 1,300 cars since the last returns were compiled. Figures regarding the powers of the cars are of interest, as they are averaged from year to year. Thus, in 1902, the mean horsepower was 5; in 1903, 6; and in 1904, 7. From 1905 to 1907, inclusive, it was 9, 10 and 11, while this year it has risen to 12. In the Department of the Seine alone, however, it is higher, reaching the maximum of 17 horsepower.

About Thinning Oil for Lubrication.

"Don't try to make a light oil by mixing a heavy oil with kerosene," is the advice that comes from G. A. Haws, the manufacturer of Panhard oil. "Now that cold weather is about to set in, if the oil you are using does not flow freely, use a lighter grade of oil. Heavy oil thinned with kerosene is a common cause of cylinders carbonizing."

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TERMS OF A. A. A.-A. C. A. TREATY

Astounding Power Conveyed to New York's Local Club—"International" Definition Proves of Kindergarten Variety.

After more or less holding of its breath for a week, the world now knows what is an international automobile race. Thanks to the large heads that sit upon the shoulders of the conference committees of the American Automobile Association and the Automobile Club of America that settled the so-called controversy between those organizations and the equally large heads that ratified the terms of settlement, the definition is so clear that every child in a kindergarten can comprehend it. Contrary to general supposition, an international race or contest is not an event in which the entries come from abroad, but is any open or free-for-all contest, or one which any bunco man seeking the shekels of the public cares to advertise as "international." Over all such contests run in this country the local New York club, which is the American agent for England, France, Italy, Germany and Africa, henceforth will have jurisdiction. Any club programming an open race must therefore apply to the New York organization for sanction. These sanctions will be as cheap as waste paper. The A. C. A. will give them away without charge. They can be had for the asking, a fact which will prove of keen financial interest to bunco race promoters in the back woods and elsewhere.

The amazing definition is contained in the articles of agreement between the A. A. A. and the A. C. A., which were withheld when the announcement of peace was made last week, and which were made public early this week through the press agents employed by the Automobile Club; the press agents submitted them without comment; it scarcely was necessary.

The conditions indicate that the A. C. A. representatives are marvelous hypnotists or unusually skilful confidence men, who took mean advantage of the A. A. A. conferees and ratifiers when they were in a trance, or that the latter first lost their backbones and then were afflicted with mental paralysis. The A. A. A. men gave away all save a tattered remnant of their organization's power although their faculties apparently did not become benumbed until the Long Island Motor Parkway had been taken care of. After this year the Parkway people will control both the Vanderbilt cup race and the Grand Prize race.

The full text of what surely is the most astounding agreement ever entered into between a national association and a local club, is as follows:

This agreement, made this 11th day of September, 1908, by and between the Automobile Club of America, a membership corporation, created under the laws of New York, and the American Automobile Association, a corporation created under the laws of New Jersey. Witnesseth:

I. That the American Automobile Association recognizes and acknowledges the Automobile Club of America to be the sole American representative and member of the Recognized Automobile Clubs and that as such it is and shall be acknowledged and recognized as the sole and unqualified authority for all International automobile affairs, including races and contests, in the United States of America.

An international race or contest is one which is announced or advertised as "International," or one which is open to entrants of America and foreign countries. Cars of foreign manufacture may be entered in a race or contest without making the same an "International" race or contest, provided, however, that such cars be owned and entered by American citizens, firms or corporations.

II. The Automobile Club of America agrees that after it has conducted the Grand Prize race at Savannah, in November, 1908, it will retire from the promotion of races, so long as international racing shall be conducted in the United States of America, under the sanction of said club and in accordance with the rules of the International Association of Recognized Automobile Clubs, in as far as such rules shall apply to the race in question.

III. The American Automobile Association agrees to have changed the conditions of the Vanderbilt cup race, proposed to be held on Long Island, in the Fall of 1908, so that the same shall be a purely national race and not international in character, and in that event the Automobile Club of America agrees to remove all embargoes and disqualifications on such Vanderbilt cup race, and the same shall be raced under the rules and conditions as now announced, except such conditions as would make it an international race, and the Automobile Club of America agrees to do everything in its power under these conditions to make such race a success.

IV. The American Automobile Association agrees that it will do everything in its power to make the Grand Prize race at Savannah, proposed to be held in November, 1908, a success and to remove all embargoes and disqualifications against said race and to use its influence in having as many American cars as possible to enter this international race.

V. That after the year 1908 the Automobile Club of America agrees to transfer, under a proper deed of gift, its gold grand prize cup to a corporation controlled by the Long Island Motor Parkway, Inc., upon the condition that the said donee each year promote and conduct an international race for the same, under the sanction of the Automobile Club of America and under the rules then existing of the International Association of Recognized Automobile Clubs.

VI. The American Automobile Association agrees that after the year 1908 it will have transferred to a corporation controlled by the Long Island Motor Parkway, Inc., the Vanderbilt cup, upon the condition that the said donee will promote each year a national race for the said cup, under the sanction and rules of the American Automobile Association for national races.

VII. The Automobile Club of America agrees to make no attempts to encourage other clubs to withdraw from the American Automobile Association.

VIII. It is hereby mutually agreed that the Automobile Club of America shall be the sole representative for the American Automobile Association for all foreign countries.

IX. This agreement shall be binding on both parties hereto until terminated, as hereinafter provided. It may be terminated upon the first day of January in any year after January 1st, 1910, upon twelve months' previous notice in writing.

In witness whereof, the high contracting parties have caused these presents to be signed by their duly authorized officers, the date first above written.

The men who signed this remarkable document are Henry Sanderson, first vice-president, and S. M. Butler, secretary of the A. C. A., and R. P. Hooper, chairman good roads committee and F. H. Elliott secretary of the A. A. A. It is stated that President Hotchkiss, of the A. A. A., refused to countenance the jug-handled settlement and is so filled with disgust that he may resign his office.

Needless to say, the A. C. A. supporters and newspaper shouters, paid and unpaid, are semi-delirious with delight. Most of them knew so well that the Club was beaten to a pulp, and that its Grand Prize venture at Savannah was foredoomed for failure, if the Association but remained firm, that it has been a struggle for them to whistle loud enough to keep up courage and earn their pay. Not one of them even dreamed that the Association's spinal column would slip into its shoes.

The A. C. A. lost no time in making known that it would issue "international" sanctions for the asking. Secretary Butler readily verified the report, but he was not so sure that any effort would be made to enforce Europe's limitations and other rules, nor did he know what would be done for its useful tool, the Savannah Automobile Club, which so despicably played both ends against each other, and then against the middle Mr. Butler, however, is not authority for the statement that the European organization and manufacturers are preparing engrossed resolutions attesting their appreciation of the splendid manner in which the club as their American agent has defended their interests and hoisted the foreign flags above the stars and stripes.

The outlaw Motor Racing Association, which consists chiefly of four importers and the press agents of the A. C. A., assisted by a couple of New York dealers, made haste to obtain the first of that club's free "international" sanctions. Later, some representatives of the little outlaw corporation had an interview with the A. A. A. racing board, which held a special meeting yesterday. The men who participated in the recent outlaw 24 hours race thereby automatically suspended themselves and the suspension has not been removed despite efforts to have it lifted. So far as can be learned, nothing definite resulted at yesterday's interview.

Ten Events for Kansas City Meet.

Ten events are on the card for the third annual race meet of the Automobile Club of Kansas City which is to be held on Saturday, October 17. Races from five to fifty miles have been arranged for stock cars.

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KANSAS KILLS PERFECT SCORES

Penalties Galore in First Three Days of Endurance Run to Oklahoma—Exciting Incidents En Route.

If any one of the 31 cup chasing endurancers that left Kansas City, Mo., Saturday, 19th inst., in the Kansas City Automobile Club's six days' contest to Oklahoma City and return, neglected breakfast before the start the hunger didn't last long after they left the asphalt. There was enough to eat and to spare when the first macadam road began to grind itself into little pieces beneath the 124 wheels of one-quarter that many cars. Dust, dust, dust! In front, behind, above, beneath, north, east, south west and all other points of the compass. It turned the black-haired young men who left Kansas City in the bloom of youth into gray-haired old men of ashy pallor.

But Kansas sunshine apparently affects Kansas dust just as it affects Kansas wheat, Kansas corn and Kansas girls. Ask any Kansan what is the best thing in the world and he will chirp right up without consulting William Allen White's treatise on "Kansas is as Elsewhere Isn't," that anything raised under the warming influence of God's and Kansas's sunshine beats anything else in the world by forty ways. So it is with Kansas dust, and although the cup chasers ate it in chunks and washed it down with larger gobs of the same stuff they professed to like it and several of the party who had toured abroad swore by all that is dustly that the France, Italy and Switzerland material tastes flat in comparison.

Regardless of the merits of Kansas dust the first day's run to Emporia was a success. It is true that six of the 31 starters lost points from the original perfect score of 1,000 they had started with, but that was just the purpose of the run. Frank E. Lott, Premier, was the worst sufferer. He was on time at Ottawa, but after leaving there the puncture fiend got in his work and Lott began to compare his with Job's. After using all his spare innertubes and borrowing several Lott was compelled to shuffle into Emporia late enough to result in a debit of 149 points which, with an additional loss of 225 points on the observer's card, brought his score down to 626. C. F. Ettwein's K. C. Wonder lost 280 points, and H. C. Worth's Buick lost 19 points for being that many minutes late because of a puncture received near the city limits of Emporia. T. C. Brown, Peerless, lost 9 points at Emporia on account of a clogged gasolene pipe. E. P. Moriarity, Packard, lost 10 points in a discouraging manner. He had been on schedule time all day and was waiting a few minutes before checking in at the final stop. Just as he was receiving the congratulations of the Emporia waiters the engine coughed and then stopped dead. A hasty examination showed that some of the tasty Kansas dust had given the carburetter indigestion and before it could be relieved the judges counted off 10 points. The only other car to lose points was A. C. Wurmser's National, which suffered a loss of 80.

Thirty-one cars started as follows: Premier official car; E. P. Moriarity, Packard; J. F. Moriarity, Stevens-Duryea; Dr. B. A. Beedle, Peerless; W. L. Walls, Studebaker; Mrs. H. G. Kirkland, Overland; Carl Muelbach, Pope-Hartford; A. C. Wormser, National; H. E. Rookledge, White; Hal K. Sheridan, White; E. H. Jones, Maxwell; Fletcher Cowherd, Corbin; W. S. Hathaway, Maxwell; Carl J. Simons, Maxwell; J. A. Holzman, Maxwell; H. E. Rookledge, Premier; R. C. Greenlease, Cadillac; C. B. Merrill, Moon; Joseph Moriarity, Chalmers Detroit; James B. Porter, Chalmers-Detroit; D. B. Huss, Brush; F. Woodward, Knox; T. C. Brown, Peerless; J. E. Anderson, Rambler; L. A. Robertson, Franklin; Charles M. Morris, Ford; H. R. Worth, Buick; C. A. Boyd, Ford; Frank E. Lott, Premier; C. F. Ettwein, K. C. Wonder.

Two of the original number of starters were eliminated when the sheets were tallied up on Sunday night at Wellington, Kan., the finish of the second day's run, and 22 of the 29 finishers had not a blemish on their score sheets. The elimination of one of the most promising candidates for the cup was a great surprise, but it occurred not in the run, but on Saturday night after the cars were checked in at Emporia.

Hal K. Sheridan and Walter Reineck had charge of one of H. F. Rooklidge's White cars and they went out for a short drive after checking in at Emporia. As they did not intend to leave the town, they failed to light the gas lamps before starting. Reineck, who was driving at the time got beyond the last electric light just as a farmer's wagon loomed up in the darkness. To avoid hitting the wagon Reineck turned the wheel hard and the car careened and upset in the ditch, turning completely over. Sheridan's left ankle and left wrist were sprained and both men were somewhat bruised. The other withdrawal was Frank Lott. He had lost so many points on account of tire trouble on the first day's run that he considered a continuance of the run fruitless.

The 143 miles run to Wallington was parlor car riding in the morning, but on account of the sand and mud holes that had to be pulled through in the afternoon the committee was afraid that the smaller runabouts would be unable to maintain the 17 miles an hour schedule. Their fears were groundless, however, for all the cars came in on time, the penalizations being for mechanical troubles.

A. C. Wurmser, whose National lost 80 points on the first day, was determined that his car should be on time at Wellington, and so well did he maintain the schedule that he was inside the limits until he got within four miles of the night's control. Then two tires gave way, one within a few seconds of the other. Wurmser and his helper shed their coats and got right down to business with such good effect that it lacked just 15 minutes of the time for checking in when the job was finished. Wurmser opened the throttle wide and the big National hit only the high places in the four miles' run to Wellington. The car got there with just a few seconds to spare.

T. C. Brown had a further run of hard luck. The circulation of his car was bad from the start at Emporia, and it grew worse as he progressed, finally resulting in overheating the engine. A stop was imperative and Brown suffered a loss of 71 points additional to the 109 he lost on Saturday.

Mrs. H. G. Kirkland, Overland, the only woman driver in the run, who came through the first day with a perfect score, lost 25 points on Sunday because of a sprung axle and an accidental stoppage of the motor for the fraction of a second, while H. E. Rookledge's Reo got its first black mark for stopping the engine twice to make adjustments. It cost the driver just 25 points. The Kansas City Wonder car picked up 105 points additional penalization on Sunday on account of engine stops; with its 208 points lost the first day the score of the Kansas City product was 687 at the finish of the day's run. These were the only penalizations of the day.

One big mud hole without any bottom in many places is the best description of the route which the cars followed in the third day's run to Enid. Twenty-eight of the 29 cars that left Wellington finished, but only 10 got through with perfect scores.

The committee spent the evening hearing complaints—and there were many. H. E. Rookledge, who had three cars in the run—a White, Reo and Premier, finally withdrew because he believed the committee had imposed penalties that were unjust, and T. C. Brown, Peerless, was counted out with a broken axle.

It was all because the pilot car took the wrong road and led the trophy trailers through lakes, bogs, marshes, quicksand and mud. The Packard car was the first to get into trouble. Its driver did not see the road skirting a quicksand and water hole and the car plunged in. It stuck there until G. S. Holzhauer came along and loaned a helping rope. Then the Pope-Hartford got stuck in another hole and one of the Whites was imbedded in the mire for nearly an hour.

And then to top it all come the "water jump." The road from fence to fence was not a road at all, but a lake. The pilot car dove and swam through all right, and those behind tried to follow. Some were successful, but a mapority suffered so that the committee, when it reached the night stop, decided that those cars which were late or had suffered damage at the "water jump" would not be penalized. Notwithstanding perfect scores were reduced to 10. The run continues five days longer.

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OLDFIELD AND CHRISTIE EVEN-UP

Barney Wins Match Race—His Rival Best in Time Trials—Big Crowd at Indianapolis Meet.

Barney Oldfield and Walter Christie, with their joint racing partner, Charles Soules, played to crowded "houses" in Indianapolis last week, when they met at the fair grounds track in a three-cornered match for what was announced as a "purse of $2,000." The match was spread over two days, September 18th and 19th, and as it was strengthened by match and open events, with local cars as the headliners. The meet drew paying crowds on both days.

Although it was not to Oldfield's liking, Walter Christie drew most of the attention and applause on Friday, the 18th, when he made the fastest time of the afternoon, by sending his front drive car around the mile oval in 53⅗ seconds. Although it was not a world's record, it was the fastest time ever made on an Indiana track and therefore the crowd may be pardoned for getting joyful. Oldfield had previously tried for a record, but the best he could do was 55⅗ seconds, and Soules's trial was timed in 59 seconds.

The preliminary heats of the three cornered match for "a purse of $2,000" also were disposed of on Friday. Christie and Soules came together in the first and they put up a good race, Soules winning out on the tape by about a foot. Oldfield took Soules's measure in the second heat. What was styled the first final heat was also run on Friday with Oldfield and Christie up. There was considerable surprise when Christie led Oldfield across the tape by a few feet. Oldfield turned the tables on the following day, however, for he won the match. On Saturday Christie also reduced his State record for the mile, made on Friday, by one second, covering the distance in 52⅕ seconds.

There were enough other events on both days to fill up the card. In a special race for Buick cars on Friday Peterson defeated Madden and just afterward Merz won from Reid in the special for Stoddard-Daytons. Peterson was particularly fortunate, winning both the other open events—one a two miles open for cars under $3,000, and the other a free-for-all handicap.

An American Roadster carried off the honors in the free-for-all event on Saturday with a Stearns second and a National third The latter actually finished second, but was set back for cutting in on the pole ahead of the driver of the Stearns. Carl Fisher's Stoddard-Dayton made the biggest score on Saturday. It defeated Paul Smith's Haynes in two five mile heats and in the handicap led the field across the tape. One of the features was a mile race between two National trucks with loads of 6,200 pounds. The time was considered fast, 2:33⅕. The summaries:

First Day—Friday.

Two miles for Buick cars—Won by W. F. Peterson; second, T. Madden. Time, 2:37⅕.

Two miles for Stoddard-Dayton cars—Won by Charles Merz; second, John Reid. Time, 2:.1.

Two miles for fully equipped touring cars under $3,000—Won by W. F. Peterson, Buick; second, Charles Merz, Stoddard-Dayton; third, T. Badden, Buick. Time, 2:33⅘.

Three miles for motorcycles—Won by Walter Berner, R-S; second, Gibney, Indian; third, Oldacre, Indian. Time, 3:47.

One mile time trials—Won by Walter Christie, 0:53⅗; second, Barney Oldfield, 0:55⅗; third, Charles Soules, 0:59.

$2,000 match—First heat (two miles) won by Charles Soules; second, Walter Christie. Time, 2:14⅗. Second heat (three miles) won by Barney Oldfield; second, Soules. Time, 3:01⅕. First final heat won by Walter Christie; second, Oldfield. Time, 2:02⅘.

Three miles for motorcycles—Won by Walter Berner, R-S; second, Gibney, Indian. Time, 3:43.

Three miles free-for-all handicap—Won by W. F. Peterson, Buick; second, Charles Soules (scratch); third, Madden, Buick; fourth, Aikens, National. Time, 3:08⅕.

Second Day—Saturday.

Five miles match—First heat won by Charles Merz, Stoddard-Dayton; second, Paul Smith, Haynes. Time, 5:40⅗. Second heat and match won by Merz; second, Smith. Time, 5:11.

Free-for-all handicap—Won by Merz, Stoddard-Dayton; second, American Roadster; third, Stearns; fourth, National.

Free-for-all—Won by American Roadster car; second, Stearns; third, National.

One mile time trials—Won by Walter Christie, 0:52⅕; second, Barney Oldfield, 0:55; third, Charles Soules, 0:56⅘; fourth, Herbert Lytle, 0:57⅘.

Final heat, $2,000 match—Won by Oldfield. Time, two miles, 2:03.

One mile exhibition between two National trucks carrying loads of 6,200 pounds. Time, 2:33⅕.

Glidden Rules for Indianapolis Run.

When the Indianapolis (Ind.) Automobile Trade Association holds its run to French Lick, Ind., on October 1 and 2, it will endeavor to run it under Glidden tour rules, i. e. the association will make an effort to apply those wonderful rules to a sealed bonnet contest. The run will be 122 miles going and a shorter distance for the return.

Providence Cards Race Meet for Oct. 10.

On Saturday, October 10, a date that will see numerous big motoring events, Providence, R. I., is to have a sanctioned race meet on the Narragansett Park track. The affair will be held under the auspices of the Rhode Island Automobile Club. Eight or more races will constitute the program.

SPECTATORS SETTLE THE QUESTION

Their Clamor Caused o "Compromise" of the Stock Car Problem at Harrisburg —How the Races Resulted.

That good old question, "What is a stock car?" again bobbed up at Harrisburg, Pa., on Saturday, September 17, on the occasion being a race meet at the Middletown fair grounds, and unusual to relate the spectators suplied, if not the answer, at least an answer. J. A. Kline had entered a Pullman car in five of the events on the program, and a number of the other contestants claimed that this car did not meet with the requirements of the A. A. A.'s definition of stock chassis, and refused to compete with it. After a long discussion, the judges decided against Kline, and he withdrew the car. Later the spectators made such a clamor for the officials to allow the car to go out on the track to liven up the tame meet, that the officers let themselves down easily by permitting the machine in question to be re-entered in two events, with Roy Stains at the wheel, "by special request."

He succeeded in lowering the record o. 1:26 for the mile track, when he made a circuit in 1:20, and also won the 25 miles free-for-all which was topped at the 10 miles mark when his only other competitor broke down.

B. F. Zimmerman won the first 5 miles event with a Buick, and Charles Smith, in a Jackson, captured the second race at this distance. Then Smith won the third 5 miles brush in the $1,00 to $2,000 class, for runabouts, beating out Zimmerman at the finish.

The 10 miles handicap went to J. W. Richley (Buick), with 80 seconds handicap, in 15:18, running away from the others. Zimmerman starting even with the winner, was second and Paul Messner third.

A gymkhana race proved interesting, when drivers in fantastic costume had to eat doughnuts dangling from a string, whether they liked the greasy cakes or not. Paul Messner got away with this affair, with Zimmerman second.

The summaries:

Five miles, stock runabouts—Won by B. F. Zimmerman (Buick); second, Paul Messner (Jackson). Time, 8:16.

Five miles, stock touring cars, $1,200 to $2,000—Won by Charles Smith (Jackson); second, John Heffelman (Buick). Time, 12:5 .

Five miles, stock runabouts, $1,000 to $2,000—Won by Charles Smith; second, B. F. Zimmerman. Time, 8:09.

Ten miles handicap, free-for-all—Won by J. W. Richley (Buick), 30 seconds handicap; second, B. F. Zimmerman (Buick) 80 seconds; third, Paul Messner (Jackson) Time, 15:18.

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TIRE SALESMEN AT THE FACTORY

Hartford Rubber Works' Conference—Shore Dinner and a Motor Trip—"Snapped" in a Group.

Benefits following the "keeping in touch" of the factory and its representatives having been early recognized by the Hartford Rubber Works Co., of Hartford, Conn., the annual conference of branch managers and salesmen is regarded as one of the important events of the year, and in addition to the heavy matters of prices and policy that constitute the chief meat of the affair, sufficient social sauce and garnishment are added to whet the appetite of men in the selling organization.

To stimulate the enthusiasm and prepare for the "team work" of the 1909 season, the annual conference called at Hartford on Saturday, 19th inst., was enlivened the first day by an automobile trip to New Haven, where Justus D. Anderson, the president of the company, was the host at a Connecticut shore dinner at the Colonnade cafe. On Monday the business meetings commenced, ending on Thursday, when the men returned to their own territories. The conferences informed the representatives fully as to the company's policy for the coming season and during their stay they were given ample opportunity to go through the factory and acquaint themselves with the methods of tire manufacture.

During the course of the proceedings those who attended the conference were duly "snapped" by the enterprising group photographer, the result of whose effort is shown in the accompanying picture. From left to right in the photograph, commencing with the top row, the representatives are as follows: D. W. Shattuck, Chicago; G. D. Niles, Boston; G. R. Noble, Chicago; F. J. Kerner, Chicago; H. E. Field, vice-president; C. H. Kenyon, Buffalo; A. D. Cruden, New York City; J. J. Tompkins, Detroit; C. Clark, automobile department; E. W. Pinney, office; E. H. Fahy, New York City; F. B. MacClunie, office. Second row: C. Langmaid, Boston; George M. Orr; W. T. Powell, Chicago; W. H. Reed, solid department; W. R. Barnes, Philadelphia; H. C. Severance, Detroit; H. F. Snyder, New York City; E. S. Roe, New York City. Third row: H. H. Barth, Boston; F. W. Culver, Philadelphia; E. E. Johanson, Philadelphia; J. P. Krogh, credit department; A. L. Lowe, Buffalo; W. H. Bell, Chicago; P. H. Goodall, Cleveland. Fourth row: H. B. McIntosh, Cleveland; W. Brown, New York City; M. C. Stokes, bicycle department; H. E. Smith, Chicago; R. Gillies, Chicago; Justus D. Anderson, president; H. Plow, treasurer; F. Kesser, Philadelphia; A. W. Kirk, Atlanta, Ga.



PARTICIPANTS IN THE HARTFORD RUBBER WORKS CONFERENCE

B. & S. Improve the "S" Pipe Wrench.

The Billings & Spencer Co. have further improved their adjustable "S" pipe wrench by the employment of a serrated jaw for use on pipe. Every part is a drop forging from steel, and the jaws are hardened. The sliding jaw is fitted in a double groove, which greatly adds to the strength of the tool. The patent thumb screw on the adjusting nurl securely locks the jaw at any desired opening. The wrench is made in three sizes, 6-inch, 8-inch and 10-inch. It is of careful workmanship throughout and its design is such as to make it very useful in confined places where an ordinary wrench would be inconvenient.

Proper Care for Grease Cups.

Unless grease cups are turned down frequently there is a tendency for the lubricant to dry in the ducts to which they are connected, which is increased if they are of any considerable length. On this account a car which is to be left standing for any length of time should be gone over occasionally and the various cups screwed down, or else both cups and piping should be cleaned out thoroughly and left empty.

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THE FIRST MUNICIPAL GARAGE

Engineer Martin of the Bridge Department Tells Its History—How It is Conducted and What It Accomplishes.

New York City owns 102 automobiles. Obviously the cost of maintaining and operating this immense number of motor cars calls for an expenditure of a large sum, and to keep the expense of repairs and renewals within a reasonable amount has been a problem which from the first engaged the serious attention of the heads of the various departments to whose service the cars were assigned.

While New York was not the first city to employ automobiles in the transaction of municipal business, it is not surprising that when the utility of the self propelled vehicle had been satisfactorily demonstrated, the requirements of the largest city of American, called for the adoption of any kind of transportation which would expedite the handling of the interests of its millions of inhabitants; and so soon as the city fathers recognized that automobiles furnished the means of increasing the efficiency of the various departments, the expected occurred, and motor cars were supplied to municipal officials wherever the need for them was shown—and indeed in several instances when the need was but vaguely defined.

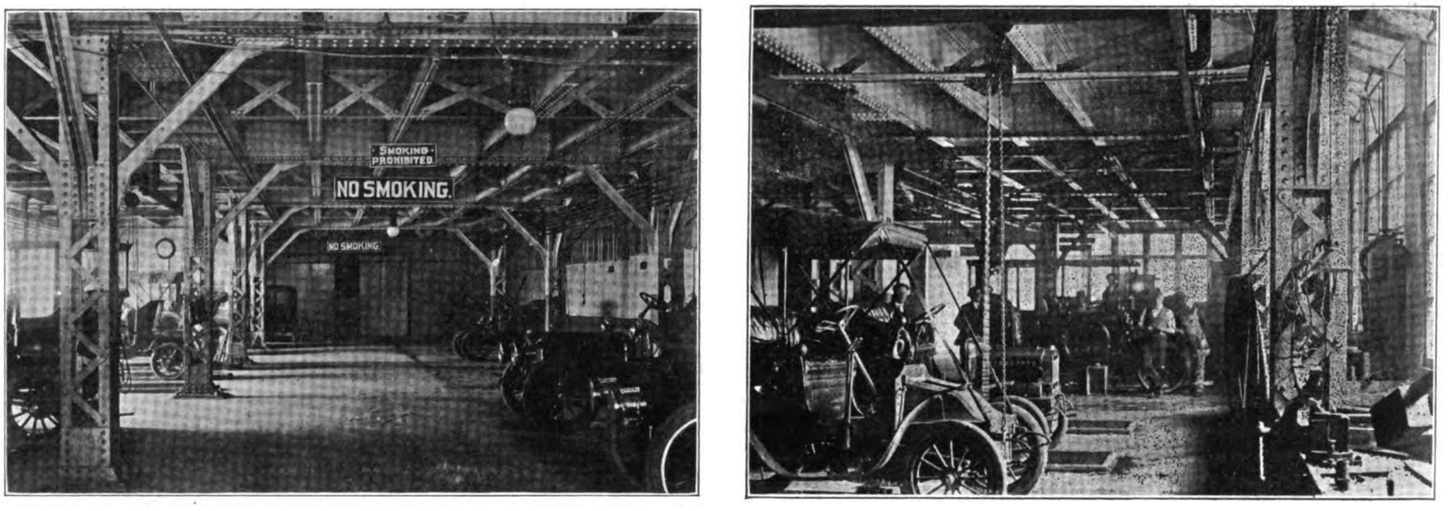
In the development of the city's automobile service it was natural that many different types of cars should have been bought. While undoubtedly it is true that if some one make of car had been standardized, and all city departments been supplied with the same chassis, the cost of repairs and replacements would have been greatly diminished, yet the undividual preference of one type of car and in the early days of municipal ownership it was impossible to agree on the type that was best adapted for the widely different service which cars of different departments would be called upon to supply. For instance, in the fire and police departments the need was for a car capable of a high rate of speed, able to withstand the abnormal strain of sudden stops or still more sudden turns. The street cleaning, bridge and other departments of similar nature did not require cars of the speed and strength which were necessary for the fire service, hence the preference of the executives of each department was responsible for the varied assortment of cars which the city owns.

But having secured the cars, the next step was to maintain them at the least possible expense to the taxpayers. The scoffer will say that city officials care little for the interests of taxpayers. Without discussing that question at all, the fact remains that the departments must conduct their business at a cost not to exceed a certain specified sum which is appropriated for the entire year at the beginning of the fiscal year; it therefore is necessary to save money in every possible way and the operation of automobiles could be conducted in a most expensive manner, without reference or thought of cost per mile, or if system and supervision were employed the expense of maintenance could be reduced to a minimum.

The department of street cleaning was the first of the city departments to try the experiment of conducting its own repair shop. Having an extensive machine and blacksmith shop as a necessary part of the equipment for the care of its carts and other horsedrawn vehicles, there remained only the need of acquiring certain machinery to properly do the work of repairing its motor cars. The machinery was obtained, and the results of the experiment, as reflected in the decreased cost of maintaining the 11 automobiles which the department operates, justified the original expense and furnished a precedent which demonstrated the value of a city repair shop.

But though the street cleaners had taken the initiative in the matter of a repair shop, there yet had been no department to try the experiment of a complete garage, that is, such a garage as is established by private enterprise for public use. The subject had been agitated by various officials from time to time, and finally the bridge department of the borough of Brooklyn decided to utilize some of the waste space underneath the arches of the old Brooklyn bridge for the purpose of erecting a complete and thoroughly equipped garage for the cars of its own department.

The erection of the building was accomplished with little expense for labor, as the work was done by the department employes on days when their time was not needed for their regular occupations. A brick building, one story high, 50 feet front, by 145 feet deep was built. A cement floor was laid in it; work benches were erected, and about a year ago the doors opened and the first municipal garage in the country was ready for business.



INTERIOR VIEWS OF NEW YORK'S MUNICIPAL GARAGE

The experiment—for such it was, and such it has been until the recent past when it ceased to be an experiment and took its place as a factor in municipal administration—was due in large degree to Kingsley L. Martin, the engineer of the bridge department. The conception was his, the plans of the building his, and his, too, will be the blame for failure, while credit will be divided among the many. A representative of the Motor World sought Mr. Martin the other day intending to learn something of the physical construction of the garage. It was found, however, that the real value and interesting data in connection with the garage lay in the administration policy rather than in details of construction.

"The reason for the garage?" said Mr. Martin, repeating the question, "Primarily, secondly, thirdly, and lastly, economy.

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Not alone economy in the financial sense, but economy with all that the word may be made to imply. Economy of time, economy in red tape, economy in supplies, in repairs, in replacements, and in labor. Until we established our own garage," continued the engineer, "the automobile question constituted a daily annoyance. While most of the chauffeurs are competent and reliable, they are as whimsical as other folks, and once let a chaffeur decide that there is lost motion in the differential, or a knock in the connecting rod and there was no peace for his 'boss' or for any one else until the engine was knocked down, or the car dismantled. Now, however, we have a daily supervision over all the cars in the garage. Every nut, bolt, screw, bearing, and everything else is put in by our employes, with the result that we know all about the cars, all about their condition and quickly can tell what is wanted and where to put it.

"That phase of the subject is but one point," said Mr. Martin, after a moment's pause. "Of course we save money on repairs because we do them in our shop. We have as complete a machine shop as one will find anywhere; our lathes are sufficiently large to do any work in connection with an automobile; then we have shapers, planers, milling machines, drill presses, emery wheels, etc.; also carpenter and paint shops. This equipment was all in use before we thought of having automobiles. It is the plant necessary to the maintenance and upkeep of the bridges.

"When we started the garage the intention was to use it only for the cars of this department, but soon the borough president saw that we were getting better service from our automobiles than was being obtained by other departments; the cars were less frequently 'laid up,' and he learned by inquiry that we were saving money, so he sent us all the cars under his control, about a dozen in all; then the department of finance followed suit, as did the departments of water supply, gas and electricity and the charities, so that now we have 30 odd cars to look after.

"But the plan has not been all clear sailing," said Mr. Martin. "Municipal enterprises encounter obstacles which are foreign to private projects. We have had trouble in financing the scheme. You see there is no appropriation which can be used for the garage, so we have had to make purchases out of the petty cash fund and wait for the finance department to replenish this fund before we could go ahead with our work. Our plan of operation is this: The cars of the different departments are under the control of a chauffeur of that department. This chauffeur is responsible for the cars of his department, and nothing else. If a car is out of order, he determines what repairs are necessary, and if machine work is entailed, the parts are turned over to the foreman of the machine shop, who has the work done by one of our machinists. Strict time accounting is maintained and though we pay our machinists 50 cents an hour, we charge other departments at the rate of 60 cents per hour. We pay 10 cents for gasolene and sell it for 15 cents. One or two other incidentals we supply at a like increase over cost of purchase and the funds collected through these means serve to pay for the cost of bookkeeping, etc., which, obviously, the bridge department should not be expected to supply to other departments.

"To overcome the delay which usually is connected with the purchase of articles by the city, we have adopted a very simple procedure. The head of a department makes known his want, whereupon I issue an order on a dealer for the article. At the beginning of each month a bill is rendered to the department, one bill for each car, the cars being designated by their state license number. Each day we make out a report for every car in the garage. On a large blank we keep a daily record of the amount of gasolene and lubrication used; of lights, that is carbide or gas; ignition, tires, new parts, repairs, cleaning and any other general expense. The expense of this maintenance is really debited against the car. On the credit side is put the mileage; and when we add to these figures the chauffeur's name, the type of the car and the department to which it belongs we have a record for the days which, when compiled for a month is apt to prove either damning or commendable for the maker, for the chauffeur, either or both. One of the interesting observations which we have made from the figures collected on these daily reports is that chauffeurs against whom is charged the greatest consumption of lubricating oil usually have the least cost of repairs and replacements due to causes other than accidents. The data which we have also shows which type and style of cars are the least expensive to operate. For instance, car 41,144 runs 1,800 miles in one month at about the same cost as car 41,571, which latter has gone only 1,100 miles; either the chauffeur or the car is at fault, and quickly we can determine where the fault lies. Obviously, when new cars are to be acquired this information will aid greatly in the proper selection of the car.

"And now," said Mr. Martin, in concluding the interview, "let us sum up what we have and what we have accomplished by the development of the municipal garage. We have a thoroughly equipped garage which, while not yielding a profit, is self supporting and is practically without cost to the city. Though some money is spent on its maintenance it is not the sum which would be spent in storing cars in public garages. We have two washing stands, 3 pits, lots of work benches, all the facilities in the world for machine work, lockers for the men's clothes, a lavatory and offices. We carry gasolene and other things on hand and can procure almost anything in an hour or two. We are able to buy at a discount. We eliminate graft or commissions. Cars are not 'laid up' unless it is necessary, and then they are repaired in a thorough manner and with the least delay as well as at a minimum expense.

"Without guessing we can tell what type of cars give the best service, which are the most expensive and what is the trouble most often encountered. We know what the chauffeurs are, whether they take care of the car when driving, or merely bang it around in any old hap-hazard manner; the monthly expense sheets show all these things and they offer a medium for comparison that has the deadly parallel column beaten by a mile."

"One thing I noticed," remarked the interviewer as he prepared to leave; "while you have established a chauffeurs' room, you have not done much in the matter of fixing it up for the men."

"No," replied the other, and he smiled a pensive smile. "No, we haven't done much to make it homelike because when chauffeurs might be loafing they usually may be found tinkering about their car. No," he again said, as though in response to another question, and after a moment, he continued: "May be I was somewhat influenced in the determination not to fix up the room by an incident in the life of a western friend who built a fine shed for his goats.

"My friend spent brains, time and money in the construction of this shelter for his animals, he had double walls, double floors and double ceilings so that no draft could enter the building. Then he provided an exit and entrance, which gave the animals entire freedom of action, but yet was so devised that the cold winds would not penetrate. When all was finished he waited for the storm, and finally it came, with all its blinding fury, winds, snow and hail, and it was bitterly cold. In the night the builder of the house went out to see how his animals were protected. He entered the building and was surprised to find it vacant. Then he looked about and finally discovered that the goats for whose shelter the place had been built, were lying on the roof of the house enjoying the full benefit of the storm. No," said Mr. Martin, turning to the papers before him, "I decided not to make the chauffeurs' room homelike."

For Temporary Repair of Springs.

Spring troubles, while seldom of a sufficiently serious nature to cause the laying up of the car by the roadside, yet are the source of considerable delay occasionally which would be reduced were the operator always able to effect a quick and reasonably secure temporary repair. In this connection it is well to carry in the tool box a small portable vice or hand clamp such as could be made to span the leaves of a spring from top to bottom, thus holding them securely together. By this means, with the aid of a "splint" made of thin iron or steel, which also may be carried in the kit, a very respectable temporary repair may be effected in a few minutes.

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ENGINEERS' SOCIETY VISITS OHIO

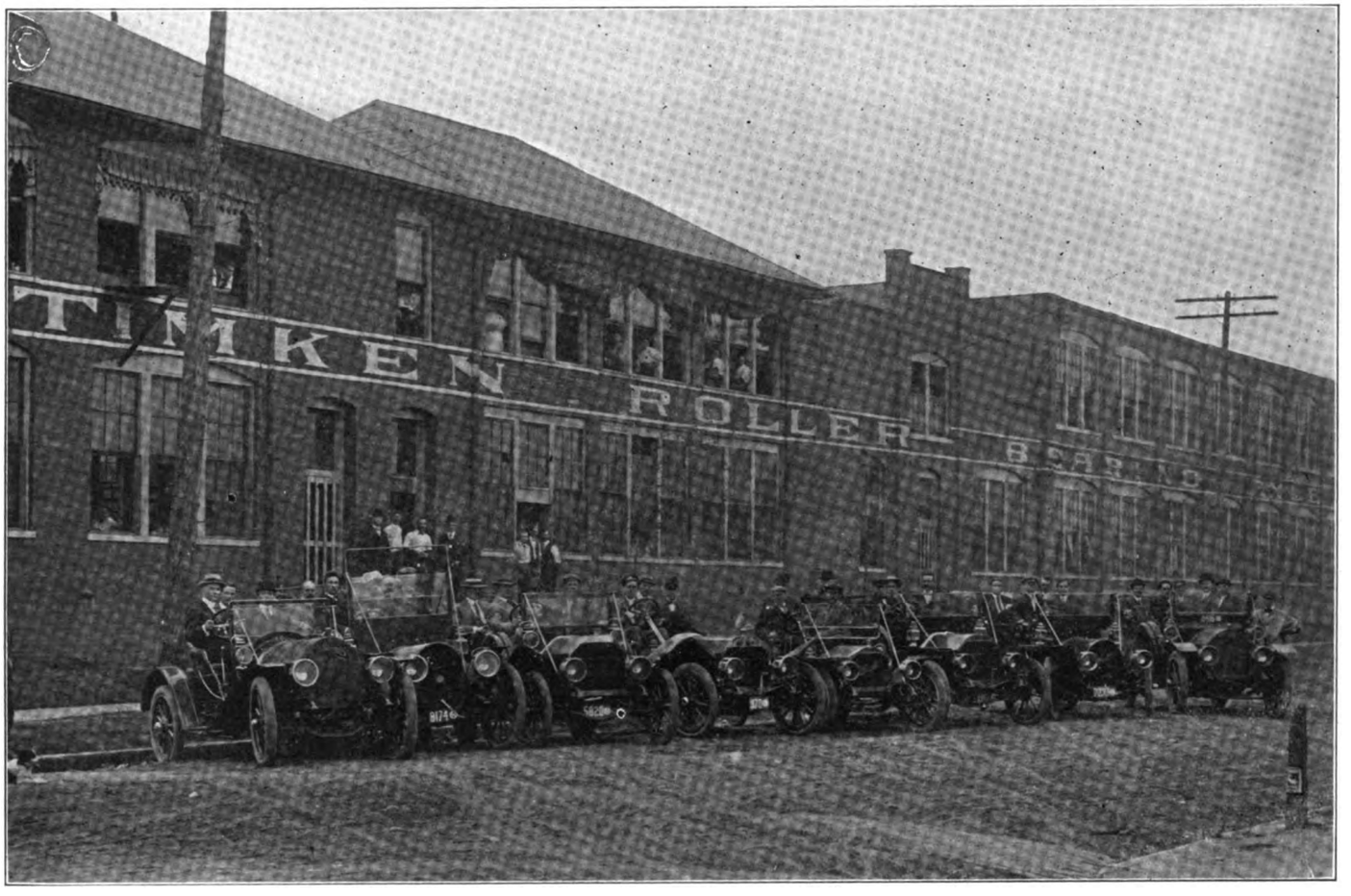
Business Sessions Interlarded with Visits to Plants in Cleveland, Akron and Canton—Technical Papers Read.

That portion of the industry which is located in the immediate vicinity of Cleveland, Ohio, threw open its doors on Friday and Saturday of last week to visiting members of the Society of Automobile Engineers for whom entertainment of the instructive sort as well as the amusing was provided in lavish amounts. In fact so limited was the time set for the meeting and its contingent visits, that the original program had to be curtailed and several of the plants which the engineers had been invited to inspect had to be passed by. Eight different plants in Cleveland and Akron were visited, however, in addition to which the regular sessions of the third quarterly business and technical meetings were held on Friday afternoon.

Friday morning's proceedings included trips to the plants of the Winton, Peerless and Standard Welding companies, and also to the factory of the Hydraulic Pressed Steel Co., where it had been intended to give a special demonstration of several of the processes which have been developed solely in the production of automobile parts, but the other "calls" had consumed so much time that this was found to be impossible as it was the noon hour before the party arrived at the Steel company's shops. The proposed visit to the Stearns factory had to be omitted, and there was but insufficient time to investigate the workings of the new White factory before luncheon.

The technical sessions of the afternoon comprised in addition to the business meeting, the reading of several papers. The first covering "The Limitations of the Universal Joint," being presented by S. Vanderbeek, of the Vanderbeek Tool Works, Hartford, Conn., was illustrated by means of a working model designed by the author. President Thomas J. Fay, of the society, discussed "What Carbon Does to Automobile Steel," while a translation from the French of Louis Lecoin, read by Secretary Charles B. Hayward, presented a critical study of the subject of motor timing induced by the development of the Larrad Timer abroad sometime since, as a result of which the old question as to the advisability of a system of universal timing has been revived.

At the invitation of the Diamond Rubber and Goodrich companies, the party paid a visit to Akron on Saturday, inspecting their plants and being initiated into the mysteries of tire production on the huge scale for which Akron is famous. The limited time prevented the invitation of the Firestone Tire & Rubber Co., from being accepted, but a delegation of members called at the plant long enough to receive the souvenirs which had been prepared for the society and which took the form of stop watches suitably engraved. The afternoon was spent at the plant of the Timken Roller Bearing Axle Co., at Canton, the accompanying illustration showing the members as they were about to leave for a dinner at the Courtland House, tendered by the company, at which "roller bearing cocktails" were served as fitting appetizers for a most enjoyable menu.



SOCIETY OF AUTOMOBILE ENGINEERS AT THE TIMKEN FACTORY, CANTON

Secure Fastenings for Detachable Tonneau.

With the coming into use once more of the detachable type of tonneau the car driver should observe the greatest care in keeping the securing devices perfectly tight at all times. With most tonneaus and otherwise detachable seats there is small chance of accident through the accommodation being thrown overboard. But the risk is sufficiently grave to make the precaution a most imperative one.

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MITCHELL ANNOUNCES NEW MODEL

Attractive Five Passenger Car at Modest Price—Its Liberal Equipment—Broad Option in Body Mounting.

Among the announcements made in connection with the recent Agents' Convention of the Mitchell Motor Car Co.'s forces at Racine, Wis., was that of the new $1,500 model "K," which was heralded as being a particularly attractive offering in its class, presenting a number of features quite in advance of what would naturally be expected at the price. The first details of this car to be given out tend to confirm the impression thus established, in which connection it is by no means insignificant that, in common with the other vehicles of the same line, its parts are all made in the parent factory. The element of assemblage of outside products is wholly eliminated, excepting, of course, the usual details of equipment such as are a highly specialized product in themselves.

One of the most striking points about the new machine is the liberal allotment of accessories included in the regular equipment. In addition to the usual lamp, horn and tool fittings, this also is extended to the ignition system which is of the double type. Splitdorf magneto, commutator, coil and batteries all being included with every stock machine. Another point which makes the offering particularly attractive to the purchaser who seeks "the most for the money," is the fact that the car is of liberal dimensions and by no means looks the modest part which its price would imply.

The seating arrangements provide for five passengers in the touring body, the hood in front is of large size and the 30 horsepower motor of ample size to develop all the driving effort that should be required. As a further inducement, an equal option is given on body mounting between four different styles, that is to say, the regular five-passenger touring body, a surrey body, rumble seat roadster, and a plain runabout with rumble deck. The bodies are wholly of metal, and the tonneau of the touring car is detachable.

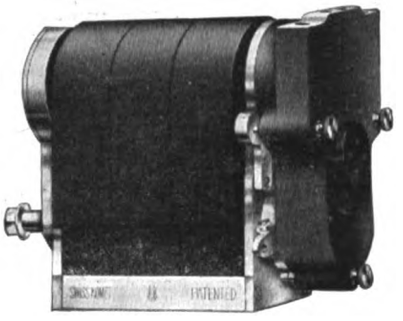
The wheels are 32 inches in diameter, shod with 4-inch tires on detachable rims. The wheel base is 105 inches. The four cylinders of the motor are cast independently and the crank shaft is mounted in five large sized bearings. Five roller bearings are employed as well as a ball thrust to take up end stresses, while the latter type of anti-friction bearing also is found in the steering knuckles. The transmission is of the selective sliding gear type.

Other models for the coming year will include the model "L"—a seven-passenger touring car of 35-40 horsepower and 115-inch wheel base, and the model "J" runabout, which already has made its mark. In fact, as showing the popularity of the latter type, it is stated that it is at present in use by over 1,000 physicians alone.

New Magneto with Special Features.

Continued increase in the use of the high tension magneto system of ignition with its various modifications has brought about an extensive variety of devices which are now on the market and in which is exploited nearly every possible variation of the principles of the generation of electric current in closed circuits. A recent addition to this already extensive array is a foreign importation—the Swiss-Komet, made, as its name implies, in that country equally famous for its mountain scenery and the fine workmanship of its mechanical products. Wende & Co., Chicago, are sole American agents and importers and have just completed arrangements for the introduction of the instrument in this country.

The magneto itself is of the self-contained



type, with both high and low tension windings concentrated on the armature. The condenser is located within the enclosure of the magnets, and the distributing gears are placed at one end of the device, the circuit breaker and distributing arrangements being isolated from them at the other end. An important and distinctive feature of the system is that no independent ground connection is required for the secondary circuit, and that no return wire from the dash is necessary in order to provide for short-circuiting when cutting out the motor. Instead, this is accomplished within the magneto by automatic means whenever the timer is returned to the position of maximum retard. Thus the only outside connections required are the plug wires, and the timer lever connection which is led to the steering column.

Convenient Way to Attach Tool Roll.

A little convenience in connection with the ready accomplishment of roadside repairs is to attach a couple of stiff wire hooks to the tool roll in such a way that it can be hung from the front of the radiator, the hooks reaching over the top. By this means the pockets in the roll are vertical so that the tools will not fall out, while they will be kept clean and accessible at all times. When repairs are being made to some part of the mechanism behind the motor the hooks will be found to take hold of the sides of the body.

CAUSES OF CRACKS IN VARNISH

Hurried Finish Said to be Responsible for Premature Deterioration—How to Distinguish "Force" Cracks.

Does varnish crack upon automobile surfaces more readily and more extensively than upon carriage surfaces? This question is being asked with much sincerity and insistence of late, and while a decisive answer could scarcely be offered, it is nevertheless true that an examination of a large number of automobile surfaces finished within a comparatively recent period has disclosed very many badly finished surfaces.

It has been suggested, says a well known authority, that the excessive vibration and strains to which the automobile surface is exposed is a direct and generous cause of the cracking of varnish, to which, perhaps, we should give ready assent. This form of cracking, however, is easily discerned. The carriage painter calls such fissures "force cracks," which is the proper name for them. They are to be found upon the doors, particularly around the handles and hinges, and upon the large panels where the oscilation is greatest and the vibration and surface strains are most severe. Vibration or force cracks appear upon the surface in long circular sweeps, and are as distinct from the ordinary varnish fissures as day is from night.

Doubtless the hurry up orders which now prevail in nearly all automobile factories are responsible to no small extent for the premature cracking of varnish. Hurrying one coat of paint, or of varnish, over another before the first coat has thoroughly dried, develops a great mass of cracking which, under a more rational system of painting, in which all coats are permitted to dry adequately, would be entirely done away with.

Defects in the drying of the rubbing varnish coats are responsible for the early fissuring of varnish. In the absence of a uniform selection of varnishes, both rubbing and finishing, one may fairly expect to see the final film of varnish disrupt and crack at an early age.

Defective ventilation, and the bad housing facilities generally, of garages, in which extremes of heat and cold predominate, cause varnish cracks. So, too, do sudden changes of the atmosphere produce fissures in varnish. Lack of affinity between the color and the varnish coats produces the fissured varnish structure.

Many other causes crowd fast upon the above-mentioned ones, but suffice it to say, that careful systems of painting, the employment of good materials, and excellent care of varnish during its days of service will tend to reduce the trouble to the minimum.

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PARADOXES IN PNEUMATIC TIRES

What Lifts the Wheel?—Some Curious Factors that Affect the Solution of a Puzzling Problem.

Safe to say, no piece of mechanism is productive of more puzzling mechanical paradoxes and conundrums than the motor car. Probably the pneumatic tire would be regarded simple enough structurally to be free from these. Yet an ingenious foreign correspondent has succeeded in weaving about it a most disconcerting web of confusion by propounding the innocent appearing question, "What lifts a wheel which is mounted on a pneumatic tire?"

That this is not as easy a question to answer as might at first appear, his explanation shows.

"A wheel is given to four men. Two are instructed to push, and if possible roll it in opposite directions," he says. "The other two, placed behind these, are furnished with ropes attached to the rim adjacent to them, and pull in opposite directions. The wheel will not move because all the forces neutralize one another. A child now replaces one of the pulling men; the wheel will then move away from the child, whose force is not equal to that of the man pulling in the opposite direction. The wheel is pushed and pulled, but it is the residual pulling force which moves it.

"A deflated motor tire is pumped up on a wheel. Presently the wheel lifts. What lifts it? The pressure of air in the tire above the metal rim of the wheel pressing the rim down is exactly equal to the pressure of air below the rim pressing it up. All the centripetal forces on the metal rim due to the air pressure are equal and opposite, and neutralize one another.

"The wheel is also subjected to centrifugal forces applied through the tire walls to the rim, for the tire walls are dragging the rim outwards with great force. These likewise neutralize one another except above and below the wheel. The drag upwards on the rim by the tire walls above the wheel is not counterbalanced by an equal drag downwards on the rim by the tire walls below the wheel because of the upthrust from the earth. This upthrust pushes the tire towards the wheel, and takes off some of its down pull. In other words, it supports the pressure which the adjacent portion of tire would have had to support, and which would have necessitated its pulling that much harder in a downward direction on the rim and wheel. The earth, so to speak, reduces the downward pull of the adjacent tire on the wheel from that of a man's to that of a child's.

"A wheel, therefore, in a tire appears to move up and keep up when the latter is inflated, because the upward pull on the rim by the tire walls above the wheel is greater than the downward pull on the rim by the tire walls below the wheel. It is a repetition of the pulling and pushing forces in the illustration with which I commenced.

"I have never seen this subject discussed, and suggest that we ought to regard the wheel as suspended in and by the tire from above rather than as suported from below by the air.

"In a motor wire wheel the hub is hung and supported by the spokes passing upward to the rim above, which, apparently, is itself hung on and supported by the portion of tire above it. In a wooden motor wheel the hub is supported by the upthrust from the spokes below it, and the lower half of the wheel must be hung from the upper half if the latter is suspended at the rim (as appears likely) by the tire walls above it. In that case there is perhaps something to be said theoretically for wire wheels."

The Danger of Oily Rags and Waste.

Absolute surprise always seems to be the chief emotion to struggle with the sorrow of the occasion in the mind of the man whose garage has burned up as a result of the fire from spontaneous combustion. Men who well know theoretically that oily waste and rags, if given a nice comfortable corner to themselves under a shelf or in a wooden box, will ultimately break out into flames, exhibit uncomprehending wonder when such a result follows with rags and oily waste that they themselves have thrown down carelessly. It seems impossible that such good tame rags, which had never before in their whole life exhibited any tendencies to viciousness or wildness, should turn around and do such a thing. And yet the mildest appearing of them are just so tricky as to start the biggest kind of a fire under certain conditions, and that is why they should be thrust into safety galvanized iron waste cans when not in use.

Taking up of Connecting Rod Brasses.

Repeated taking up of connecting rod brasses tends to alter the effective length of the rod, unless especial care is taken to "pack" the under side of the bushing in the stub end sufficiently to compensate for loss of metal at that point as a result of abrasion. In the case of old motors, it thus not infrequently happens that the connecting rod lengths are not a little shortened, the compression being correspondingly decreased and the action of the machine affected accordingly, sometimes unequally in the various cylinders as well. On this account repairmen who have occasion to do much work on engines of a given type, would do well to provide themselves with gauges of the proper length to indicate the required distance between the crank and wrist pins, when the engine is correctly adjusted. This provision would be found to save not a little annoyance in the subsequent tuning up of the engines.

142 MILES ON A SINGLE CHARGE

Extraordinary Performance of a Stock Electric Car—Two Days' Steady Running Fails to Exhaust Batteries.

While those "in the know" are aware that electric mileage and speed "stunts" usually are due to the employment of special batteries, light tires and other than standard equipment, there comes from Indianapolis the story of a most remarkable performance of a Pope-Waverly electric which, according to the Pope Motor Car Co., recently was driven 142 miles on one charge of the batteries and was good for at least 5 miles more. The car, it is stated, was a stock model of the victoria-phaeton type, and the test was a hurriedly conceived undertaking, the stock car being assembled on a rush requisition and the batteries installed. One of the young men from the Pope office was pressed into service, given a definite route, and told to "run her down." He started a 1 p. m. and returned to the factory just before closing time, having covered 63 miles. The car was locked up for the night, making it impossible for anyone to alter the batteries, and the next day was started out again without any recharging in the meantime. Upon his return he had in the two days covered a total of 142 miles, according to the account given the newspapers, and had "juice" to spare. The streets selected for the run were of only average condition, and it is suggested that had the operator been an experienced factory driver, the car could have gone 160 miles without a recharge.

Unequal Temperatures in the Cylinder.

Sometimes unequal temperatures in the various cylinders of a motor may be caused by obstructions in the jackets which, particularly if the circulation is imperfect, may be caused by incrustations due to the use of impure water. While there is no direct and satisfactory method of removing such obstructions, it is possible to accomplish considerable by disconnecting the regular piping and coupling the jackets, one at a time, to a steam pipe, allowing high pressure steam to blow through for some little time. While not removing the main body of scale, this method tends to cut out any obstructing particles and gets rid of any possible silt or core which may have settled at the base of the jacket.

Convenient Way to Carry the Jack.

Undoubtedly the most difficult part of the car's equipment to dispose of satisfactorily is the jack. If carried loosely in the tool box it is liable to damage other articles, while it is apt not to be readily accessible when wanted. It is best carried strapped to the foot or running boards where it can be got at in a hurry.

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NOVEL GOOD ROADS PROPAGANDA

Cleveland Reliability Run to be a Mission Among Farmers—Oratory for Every Town on the Route.

Desiring to do something decisively unique, the Cleveland Automobile Club is going to run a grand instructive tour and educate the comon people up to the proper white heat point as regards the necessity for improved roads. The club's reliability contest, the dates of which have been changed to October 14, 15 and 16, will not go flying through the numerous Ohio towns at exhibition speed, but instead, the contestants will pause at each village. Then having practically the entire local population assembled in the public square, prominent Cleveland orators will "rise up" and harangue the merry villagers and agitate them in the interest of smooth highways.

Controls will be established at each town to hold the cars until the silver-voiced speaker has said all that the natives will stand for and then proceed to the next stand. This, it is expected, will not be difficult to arrange, although the drivers of the cars may not be delighted with the plan, but they will have to submit to the cause of the higher education. The speakers will endeavor to establish more friendly relations and a better feeling between the farmers and the motorist, and by allowing the rural populace to approach and pet the contesting cars with brawny hands and ask questions, principally foolish ones, it is thought that a certain amount of good will will be awakened and that the scheme will also be of benefit to Ohio dealers from a trade standpoint.

Reasons for not Lighting a Newark Park.

As a result of requesting the Essex county park commission for the better lighting of the Elwood avenue entrance to Branch Brook Park, the officials of the New Jersey Automobile and Motor Club have learned that "the public is neither invited nor expected to use it at night.' At the August meeting of the board of trustees of the club Secretary Le Massena was instructed to call the attention of the commission to the dangerous entrance, where, he said, several accidents had narrowly been averted. The secretary also said that the entrance to the park was made all the more dangerous by an S-shaped passage which was lined on both sides by high shrubbery, making it anything but safe for vehicle traffic. The reply of Secretary Alonzo Church, of the park commission, to Secretary Le Massena's communication, besides conveying the intimation that the park is not open for night riding, added the following information:

"The commission has had under consideration the question of roping off the entrance at night, and your letter will be presented to the next meeting with that suggestion."

Motor Cars Aid in Railway Construction.

In the work of constructing the Lackawanna "cut-off" between Lake Hopatcong, N. J., and Portland, Pa., the several contractors are using motor cars to good purpose for the transmission of messages from point to point on the 28 miles route. Some of them have two cars in service and much time is said to be saved. The superintendent on one of the sections uses a four-cylinder car for getting along the line, while two of his engineers each find a buckboard very convenient. The hills through which the railroad is to run offer some very steep grades, but thus far the motor cars have been equal to negotiating them.

Kicks Against Automobile Ambulance.

Rejecting the homeopathic theory of cures being brought about by things that might be causes, Samuel Griner, a New Jersey farmer, after being knocked off a load of hay by an automobile, absolutely refused to allow himself to be conveyed to the hospital in a motor car ambulance. Despite his injuries he insisted that a horse-drawn ambulance be provided, saying that he had had enough experience with automobiles already, and that he preferred to die on the roadside rather than ride in one. His prejudices were respected, and after a long wait a horse pulled vehicle was obtained.

How Automobile Schools Obtain Parts.

When a bad fire occurs at a garage and damages a number of cars, there are generally at least a few people who are pleased. They are not motorphobiacs, either, but the instructors in automobile schools who are thus given the opportunity to get badly damaged cars for almost nothing for their students to fuss over and rebuild. The work interests the students and is of great value to them, while the school is ultimately able to dispose of the rebuilt machines at figures which mean a substantial profit.

Will Give Motorists an Exclusive Road.

As a means of separating the motor cars from other traffic on the much used highway between San Luis Obispo and the beach at Avila, Cal., the local board of supervisors has decided to reconstruct the old stock road between these points and give it over to the exclusive use of automobiles; the regular traffic will continue to the present road, which will be repaired and put in better condition.

Pittsfield Schedules a Climbfest.

Pittsfield, Mass., will have a hill climb on September 26, under the direction of the Berkshire Automobile Association. A stiff course has been chosen , viz: From the foot of Snake Hill to the lookout on the top of the South Mountain road. Eight silver and bronze cups are offered as prizes.

MAKING ROADS WITH MOLASSES

Department of Agriculture Undertakes an Odd Experiment in Massachusetts—Tests Indicate Success.

One of the sweetest bits of road in the country will be found near Newton, Mass., if an experiment in roadmaking which is to be made there should prove successful. It is one of many experiments undertaken by the office of public roads of the United States Department of Apriculture.

Assistant Chemist Prevost Hubbard, of Director Page's scientific corps is leveling a half mile stretch near Newton, and in a few days will be in active supervision of the laying of the first molasses road of history. This molasses is the almost useless by-product of the great cane sugar refineries of the South and the beet sugar refineries of the West and Southwest. It is sickishly sweet, nearly as black and as thick as tar, and almost as powerful as a binder. Having always been a waste product, it can be bought at a lower price than coal tar and in greater quantities.

When the quantity and the sticky consistency of this material were called to the attention of Director Page a number of months ago he conceived the idea that it might aid in solving the always difficult problem of dusty roads. He sent for a supply for laboratory experiments, and detailed Mr. Hubbard to conduct them. The molasses was blended with oils and lime-water, was mixed with rock dust, with earth and with sand and tried out under heat and under water. It behaved so well and held out such promise for ideal roads that the practical test of a real road was planned.

New Jersey Club Plans a Garage.

Plans and specifications for an up-to-date garage are ready for the approval of the board of trustees of the New Jersey Automobile and Motor Club, which will act upon them within a few days. The building will be located on a large vacant lot in the rear of the club house at 4 Park place, Newark, and it is expected that it will be ready for occupancy this fall. It is not probable that the garage will be an extensive one, the club having only a two-years lease on the premises it occupies.

Bay State Holds House Warming.

With an accompaniment of refreshments, music and some informal eloquence, the Bay State Automobile Association opened its new club rooms in the Carlton Hotel, at Boylston and Hemenway streets, Boston, on Tuesday evening, 22d inst. The rooms were about complete several weeks ago, but it was found necessary to make some changes to add to the convenience of the new quarters.

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The Week's Patents.

891,714. Dust Collector for Motor Vehicles. Everard H. Morgan, Didsbury, England. Filed June 14, 1907. Serial No. 379,051.

1. In a vehicle driven by an internal combustion engine, the combination of a dust collector having an inlet situated in rear of the vehicle wheels with an ejector correlated with the said collector and operatively connected with the exhaust pipe of the engine in such manner that the exhaust products induce an inward flow of air into the said dust collector.

891,799. Friction Clutch. Giovanni Enrico, Turin, Italy, assignor, by mesne assignments, to Societa Fabbrica Italiana Automobili Di Torino, Turin, Italy, a Corporation of Italy. Filed Dec. 10, 1906, Serial No. 347,042. Renewed April 15, 1908. Serial No. 427,211.

1. The combination with a fly wheel carrying a casing, of a plurality of discs slidably carried by the interior of said casing and rotating therewith, a driven shaft carrying a drum, a series of discs slidably mounted on the exterior of said drum and alternating with said first series of discs, a sleeve sliding on said driven shaft within, and projecting through said casing, for operating said discs, said sleeve inclosing the end of said drum, a spring on said driven shaft and bearing against a ring carried thereby, said spring through said ring acting on said sleeve to bind said discs together, and means for moving said ring longitudinally of said driven shaft to relieve the pressure of said spring, substantially as described.

891,800. Change Gear Mechanism for Vehicles. Giovanni Enrico, Turin, Italy, assignor, by mesne assignments, to Societa Fabbrica Italiana Automobili Di Torino, Turin, Italy, a Corporation of Italy. Filed Dec. 10, 1906, Serial No. 347,044. Renewed April 15, 1908. Serial No. 427,213.

1. In a variable speed gear, the combination with changeable gears, of operating rods for said gears, a bushing carrying said rods, and resilient means carried by said bushing and holding said rods in position, except when operated by said selective means, substantially as described.

891,803. Base and Crank Case for Hydro-Carbon Engines. Henry B. Joy, Detroit, Mich., assignor to Packard Motor Car Company, Detroit, Mich., a Corporation of West Virginia. Filed May 21, 1906. Serial No. 318,055.

1. In an automobile, the combination with two side frame members, of a crank case consisting of three longitudinally separable sections, to wit, a section having laterally extended arms which are secured to said side frame members, a bottom dish-shaped section, and an intermediate section, the first section being formed with the upper half of the crank shaft bearings, and third section with the lower half of said bearings.

891,827. Rotary Explosive Engine. Guy L. Fairbrother, Mystic, Conn. Filed March 20, 1907. Serial No. 363,372.

1. In a rotary explosive engine, a rotor having two sets of tangential pockets in the periphery thereof, each side inclined in opposite directions, a casing surrounding the rotor, means for preventing the escape of gases from the pockets into the space between the rotor and casing, two explosion chambers, the outlets of each oppositely inclined in the direction of the inclination of the pockets in the rotor, means for compressing an explosive charge in one or the other of said chambers, means for igniting the charge in one or the other of said chambers, and an exhaust outlet from said casing.

891,841. Automobile Wheel. Karl Kohlmann and Gustav Andree, Dane, Wis. Filed Jan. 22, 1906. Serial No. 297,366.

1. In a wheel, a rim having a plurality of rectangular transverse recesses formed therein, a tire having a plurality of rectangular transverse lugs formed on its inner periphery, said lugs adapted to fit snugly said recesses, a retaining wire passing through said lugs, and means detachably connecting said wire with said rim.

891,934. Transmission Gear for Motor Vehicles. Russell Huff, Detroit, Mich., assignor to Parkard Motor Car Company, Detroit, Mich., a Corporation of West Virginia. Filed Feb. 16, 1907. Serial No. 357,722.

1. In transmission gearing for motor vehicles, the combination with the change speed gearing, the differential gearing and a casing inclosing said gearings, of a drive shaft, and a shaft interposed between the drive shaft and the differential gearing, a clutch gear on one end of said interposed shaft co-operating with the change speed gearing, and a beveled gear upon the opposite end thereof cooperating with the differential gearing, a radial bearing for said interposed shaft adjustably mounted in the casing, and a thrust bearing for said shaft also adjustably mounted in the casing, one of said bearings serving as a lock for the other.

891,936. Carburetter. Antoine Jourdanet, Pierre Billet, and Ferdinand Baron, Lyon, France. Filed June 17, 1907. Serial No. 379,428.

1. In a carburetter the combination with a carburetting chamber and a spirit supply chamber, of pieces of rattan for conducting the spirit from the latter to the former by capillary action and a felt supplier in contact with the rattan in the spirit supply chamber.

891,992. Method of Forming Conically Shaped Ends upon Rollers and Other Objects. Henry Hess, Wawa, Pa. Filed June 27, 1907. Serial No. 381,138.

1. The method of forming conically shaped ends upon rollers, consisting of mounting a plurality of the rollers in circular series and in the desired angular position, rotating the rollers individually, and simultaneously applying the forming tool to all the ends thereof.

891,993. Flexible Piston Connection. Henry Hess, Wawa, Pa. Filed July 27, 1907. Serial No. 385,857.

1. The combination of the piston and the piston rod with a flexible and elastic laterally yielding connecting member.

892,049. Safety Crank for Internal Combustion Engines. Noble W. Hartman, Toledo, Ohio. Filed Sept. 3, 1907. Serial No. 391,001.

1. In a device of the described character, an engine shaft, a hand crank, means for operatively engaging the crank and shaft for forward rotation, and means for the disengagement of the crank and shaft by the reverse rotation of the shaft, said latter means comprising a spirally toothed portion on the hub of the crank, a ring surrounding said

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spirally toothed portion, supports for the ring which permit its lateral movement, internal teeth on the ring alapted for engagement with said spiral teeth, and a spring which holds said internal teeth and said spiral teeth in normal engagement.

892,051. Vehicle. Edward R. Hewitt, New York, N. Y. Filed Oct. 1, 1906. Serial No. 336,855.

In combination with an automobile chassis having rigid side bars, rigid extensions depending therefrom at a pair of transversely opposite points, a rod joining the transversely opposite extensions, levers pivoted thereto and extending rearwardly with respect to the chassis said levers having short arms projecting forwardly and vertically perforated at their extremities, bolts depending rigidly from said chassis through said perforations, springs surrounding said bolts and engaging said arms of the levers on opposite sides, nuts and washers at the lower ends of the bolts serving to hold said springs adjustably in place, and an axle having wheels, at the extremities of the rearwardly extending portions of said levers.

892,075. Tire. Arthur O'Brien, Chicago, Ill., assignor of one-half to Frank P. McGinn, Chicago, Ill. Filed May 23, 1907. Serial No. 375,295.

1. A resilient tire comprising a channeled felly having side flanges, a plain spring band or ring fitting loosely in the channel, a rubber tread fitted in the channel and extending beyond the flanges and resilient means between the tread and spring band.

892,285. Sparking Plug. Emile Moonen and Albert Dumaire, Paris, France. Filed Dec. 7, 1906. Serial No. 346,763.

1. An electric sparking plug for explosion motors, having a body provided with a slotted tubular extension forming one of the poles and a central rod having a head and forming the other pole, the head being provided with a plane surface received by the said tubular extension and rotatable on the central rod for adjusting the distance of the spark producing surfaces.

892,294. Vehicle Wheel. Joseph Nicholson, Boston, Mass. Filed May 24, 1907. Serial No. 375,426.

1. The combination with a wheel, of a pair of shells slidably contacting with the lateral faces of the rim of said wheel, a cushion tire held by said shells, resilient means between said rim and tire, and rolls connected with said shells and adapted by their engagement with the rim and spokes of the wheel to limit the play of said shells.

892,296. Vaporizer for Internal Combustion Motors. Friedrich Oberhansli, Kesswil, Switzerland. Filed Aug. 15, 1907. Serial No. 388,661.

1. In internal combustion engines, the combination of a compression chamber; an air inlet for the same; a vaporizing chamber provided with a fuel inlet; an obturating member separating said chambers and provided with two passages between the same; and means causing said member to slowly close and completely separate the said chambers during the suction period, to open one of said passages near the end of the compression period, and thereby admit a portion of the air compressed into the vaporizing chamber, and to then open the other passage to permit a complete admixture of fuel and compressed air, substantially as described.

892,323. Wheel. Edwin Stancliff, New York, N. Y. Filed April 28, 1906, Serial No. 314,178. Renewed Oct. 14, 1907. Serial No. 397,354.

1. The combination with a track wheel having a centrally disposed opening, of a drive wheel located within said opening, the perimeter of said drive wheel being located in the plane of the inner perimeter of the track wheel, and an elastic tire carried by one wheel for running upon the perimeter of the other, and that other having faces engaging the side faces of the tire when under load.

892,395. Wheel for Motor Vehicles. Harrison H. Boyce, Oyster Bay, N. Y. Filed June 14, 1907. Serial No. 378,923.

1. The combination with a felly having a plurality of separated transversely beveled lugs raised above the surface of the felly, of a channel having a plurality of separated beveled lugs projecting inwardly from its inner surface, and clamping means for engaging said respective lugs.

892,445. Electric Lighting System for Automobiles. Frank L. Parrill, Vincennes, Ind. Filed Oct. 19, 1907. Serial No. 398,260.

1. In an electric lighting system of the class described, the combination with the frame of a motor car, the fly wheel for the motor thereof, and electric lights carried by the frame, of a frame mounted to rock transversely in the frame of the motor car, a dynamo having its shaft journaled in the rocking frame, a friction wheel fixed upon the said shaft, and means whereby the frame may be swung to bring the said friction wheel into contact with the fly wheel.

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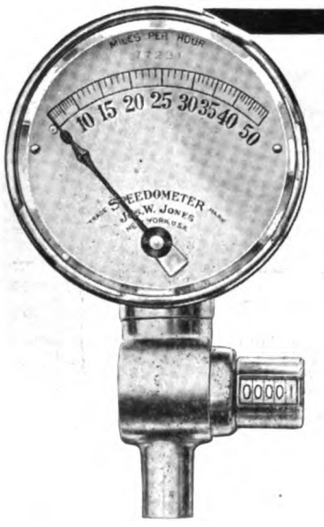
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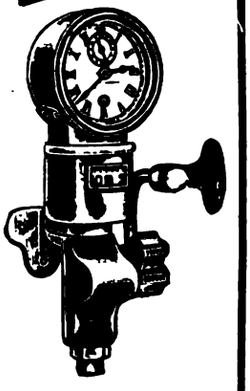
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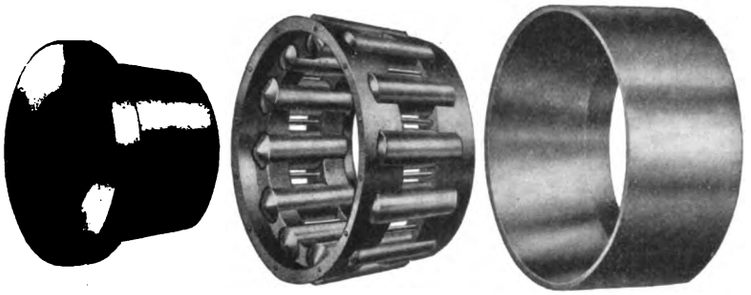
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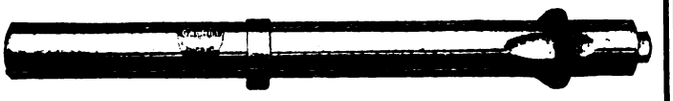
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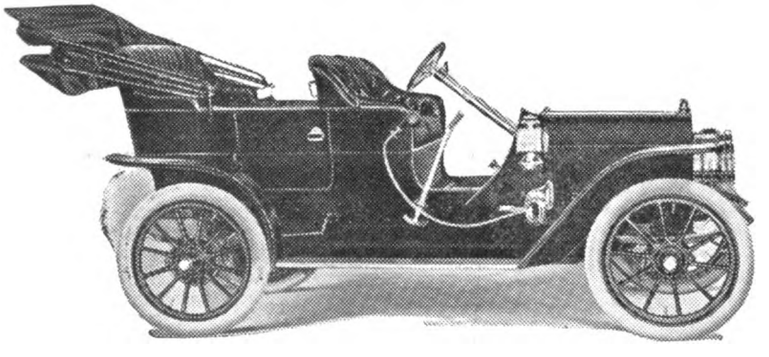
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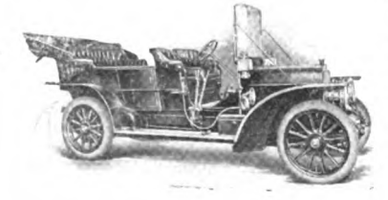
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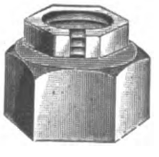
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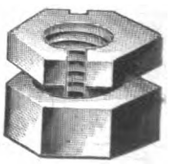
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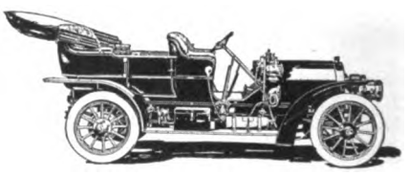
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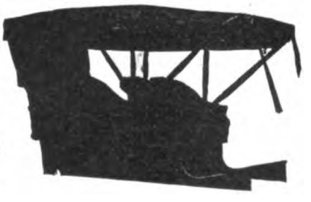
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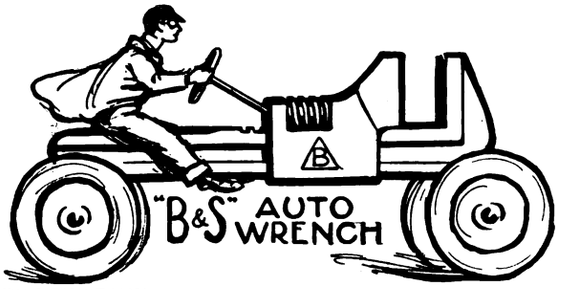
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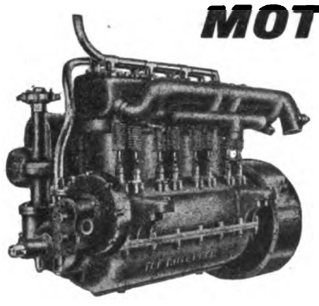
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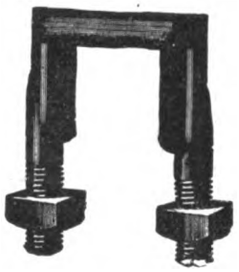
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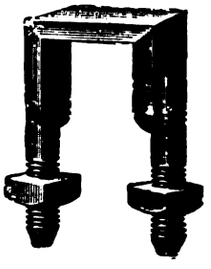
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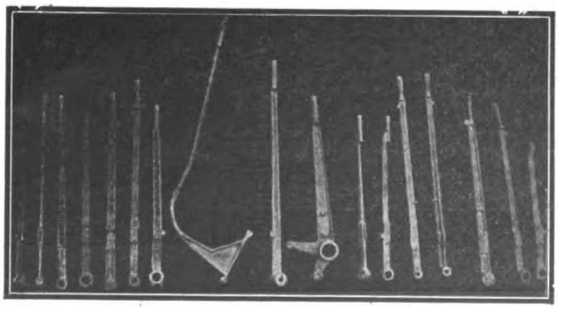
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PRICE **$15** (Model 30) PRICE **$15**

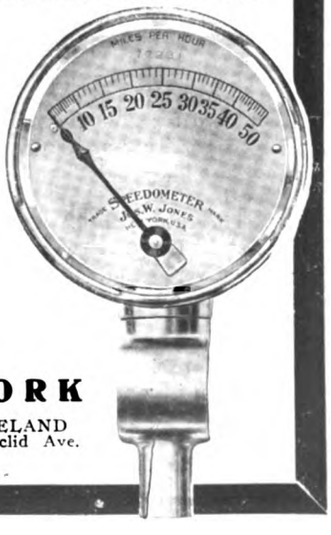
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This remarkable offering of a Jones Speedometer for $15.00 will revolutionize the entire speed-indicator industry. It has been made possible through the evolution of speed-indicator construction as practised by this company, and also for reason of the large economies resulting from manufacturing and purchasing in enormous quantities. Furthermore the Jones Speedometer is built in the largest factory of its kind in the world. This fact alone enables this company to produce a speedometer absolutely accurate, handsomely finished and perfectly calibrated for the remarkable price of $15.00—an accomplishment never attempted by any other manufacturer. It means that every motorist can and will equip his car with the most necessary of all accessories—a Jones Speedometer.

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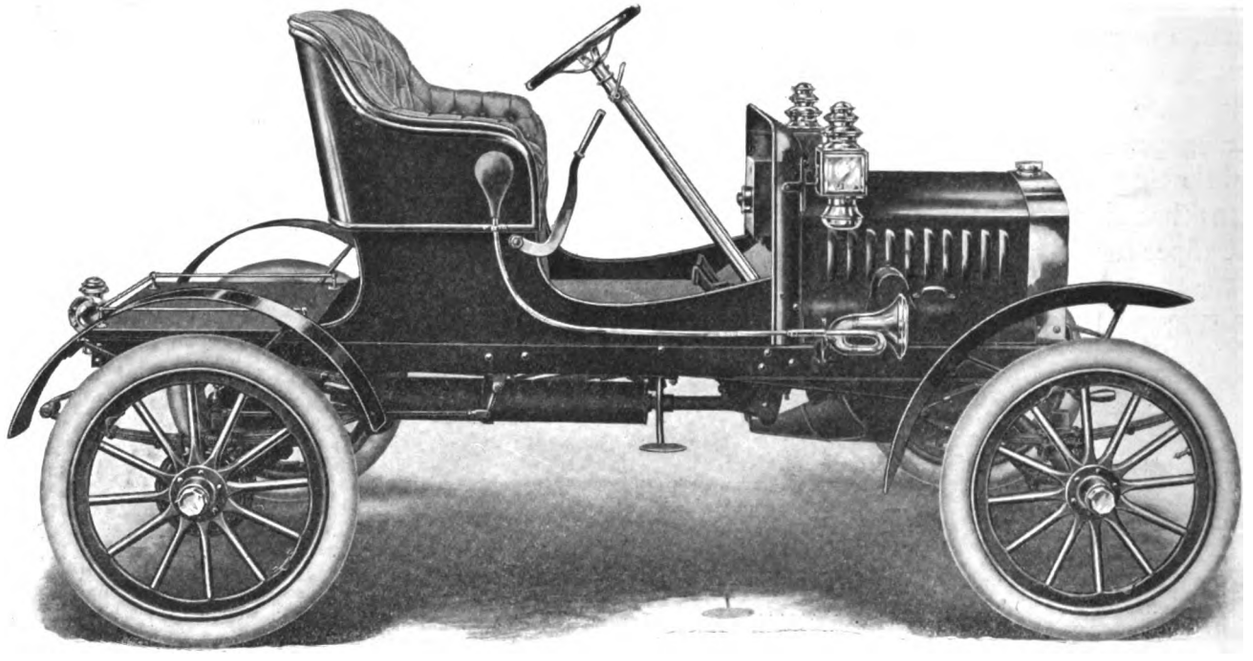
$500 Two-Cylinder Standard American Runabout.

As handsome a car as the heart of the most exacting motorist could desire; from cooler to tail light gay, debonair, dapper and deft; every line indicating fleetness and power; eloquent of comfort and new-found pleasure in every mechanical detail—such is the new Maxwell Junior.

And—to make the measure of surprise full to overflowing, this marvelous example of automobile value is offered for sale at

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a price at which it is difficult to purchase a first class horse and carriage.



Maxwell Junior—Model A

Yet, though it is as cheap as the horse and buggy, what a difference in **performance** and **genuine usefulness.**

Instead of the eight-mile-an-hour pace to which the horse is accustomed the Maxwell Junior is capable of speeding along at **forty miles an hour.**

Instead of the 3½ or 4 miles which constitute the average daily travel of the buggy horse the radius of mobility is practically unlimited for the Maxwell Junior.

Requiring no grooming or horseshoeing, no watering or feeding, no veterinary attention, untiring, unfailing in its reliability, and, last but not least: infinitely **cheaper in point of upkeep,** the Maxwell Junior $500 Two-Cylinder Standard American Runabout appeals to everyone of the more than 800,000 people who purchase horses and buggies each year, in the United States.

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Every single item of the Maxwell Junior's specification spells correct design, careful construction, substantiality, real comfort, and

UNAPPROACHABLE VALUE.

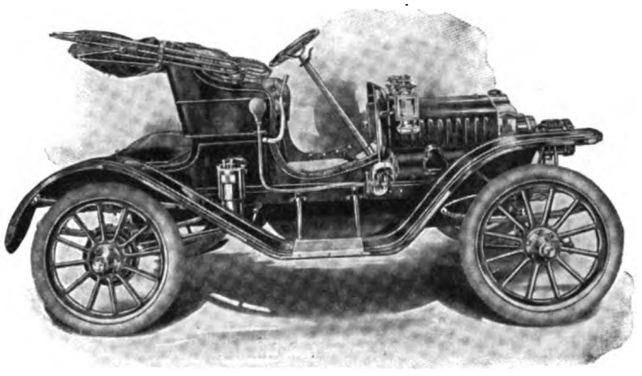
More detailed information concerning the Maxwell Junior $500 Standard American Runabout is contained in a special circular, which will be sent free upon application.

Benj. Briscoe
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Maxwell-Briscoe Motor Co. Main Office, TARRYTOWN, N. Y.
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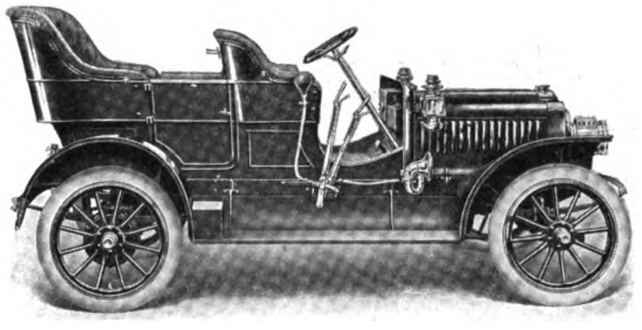
MAXWELL-BRISCOE MOTOR COMPANY—OTHER 1909 MODELS



Two-Cylinder 14 H. P. Runabout, Model LD

Equipped with top, gas lamps and generator. Wheel base 84 inches. Full elliptic springs in front and rear. Wheels 30 inches. Tires 30x3 inches. Enclosed running boards. **Magneto a part of equipment.** Price $825.

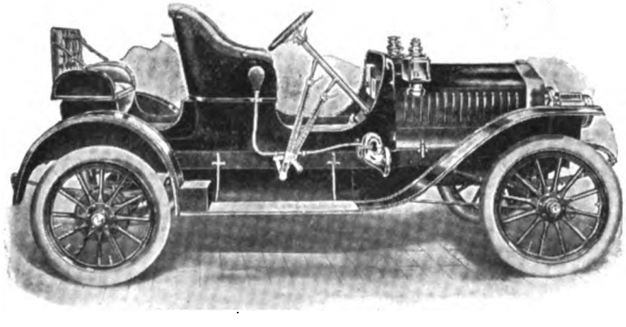
Model L D is the ideal motor car for the man who desires to travel inexpensively, either alone or with another passenger, and it recommends itself to the Doctor, Lawyer, Contractor, City and Suburban Salesman, Builder, Business Man, in fact, to every one whose needs do not exceed economical, safe, and speedy transportation for two.



Four-Cylinder 24-30 H. P. Touring Car—Model DA

Equipped with gas lamps and generator, coat rail, foot rest, etc. Wheel base 104 inches. **Magneto a part of equipment.** Price, $1,750.

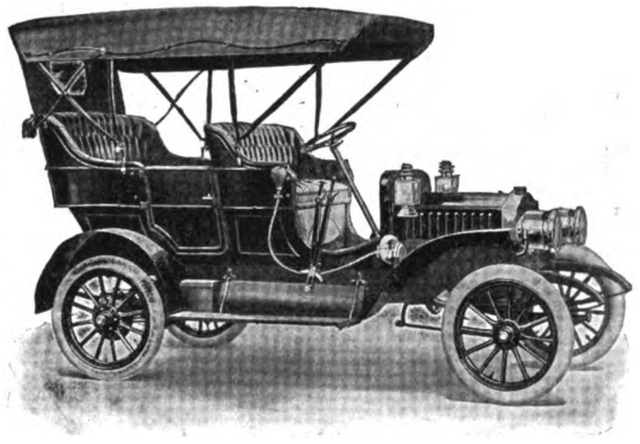
The best value ever offered on the American Automobile Market. A stylish car of dignified appearance, with power to spare and of easy riding qualities that make the use of Model DA unalloyed pleasure. The economy of the Maxwell two-cylinder engine also is present in this four-cylinder type, resulting in an unusually great mileage per gallon of gasoline. The power plant is of unrivaled flexibility, built substantially, to withstand hard service. Every feature essential to the perfect utility car is represented in the Model DA Maxwell. The superior equipment and the addition of Magneto ignition make this car lower in price than other of similar power, which are sold at a slightly lower figure, but without our complete equipment.



Four-Cylinder 24-30 H. P. Gentleman's Roadster—Model KA

Equipped with gas lamps and generator, coat rail, etc. Wheel base 104 inches. Speed 60 miles per hour. **Magneto a part of equipment.** Price $1,750.

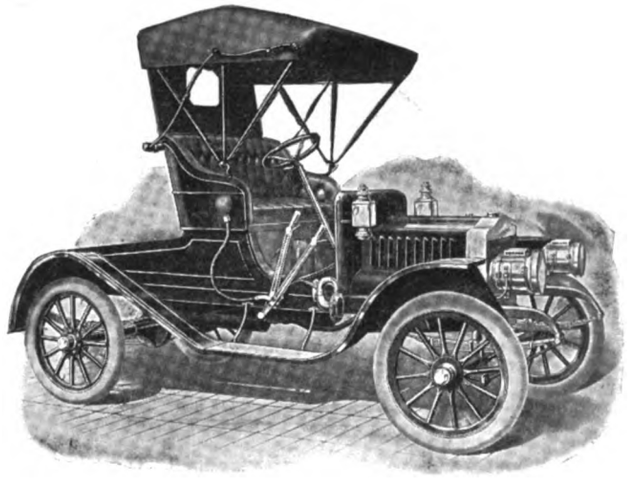
The acme of refinement, unequalled for luxurious riding. Furnished either with folding rumble, single rumble, surrey or double rumble rear seat. The ideal touring car for two and the choice of the man who wants speed combined with genuine comfort. A low-priced car when the superior and complete equipment, which includes Magneto ignition, is considered.



Two-Cylinder 20 H. P. Touring Car—Model HD

Fully equipped with top, gas lamps and generator, coat rail, foot rest, etc. Wheel base 96 inches. **Magneto a part of equipment.** Price $1,450, fully equipped. $1,250, without top, magneto and gas lamps.

This model represents the car that has done much to popularize motoring in this country. With seating facilities for five and the wheelbase lengthened to 96 inches Model HD will impress the buyer whose chief quest is simplicity of operation, economy in upkeep, reliability in the hardest possible kind of service. A car not too expensive for the business man and good enough for the millionaire.



Two-Cylinder 20 H. P. "Doctor"—Model DR.

Equipped with top, gas lamps and generator, coat rail, etc. Wheelbase 96 inches. **Magneto a part of equipment.** Price $1,350.

The chassis of this model is the same as that of Model HD, and the car has been dubbed the "Doctor" on account of its extensive use by physicians throughout the country. The ample carrying space in the rear appeals particularly to the country physician as well as to the traveling man who desires to carry luggage with him. The light weight of the body gives the car ample power to travel over rough roads and makes the "Dr." an excellent vehicle for use in districts where automobile travel is somewhat difficult on account of adverse road conditions.

MAXWELL-BRISCOE MOTOR COMPANY, Tarrytown, N. Y. **FACTORIES: Tarrytown, N. Y. New Castle, Ind. Pawtucket, R. I.**

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Standard Detachable Rim

Resolution passed by the NATIONAL ASSOCIATION OF AUTOMOBILE MANUFACTURERS at a meeting held in New York, August 5th, 1908.

"Whereas, the Standard Universal Rim, described in the report of "the Special Rim Committee, has been recommended by the committee "as mechanically satisfactory, be it

"RESOLVED that this association hereby adopts the rim so de- "scribed as standard, subject to the consummation by the Special Rim "Committee of satisfactory commercial arrangements with the patentee "and manufacturers."

At the above meeting all the detachable rims now on the market as well as proposed new rims were carefully considered.

THIS IS THE RIM



Standard Rim as Used for Clincher Tires



Standard Rim as Used for Dunlop Tires

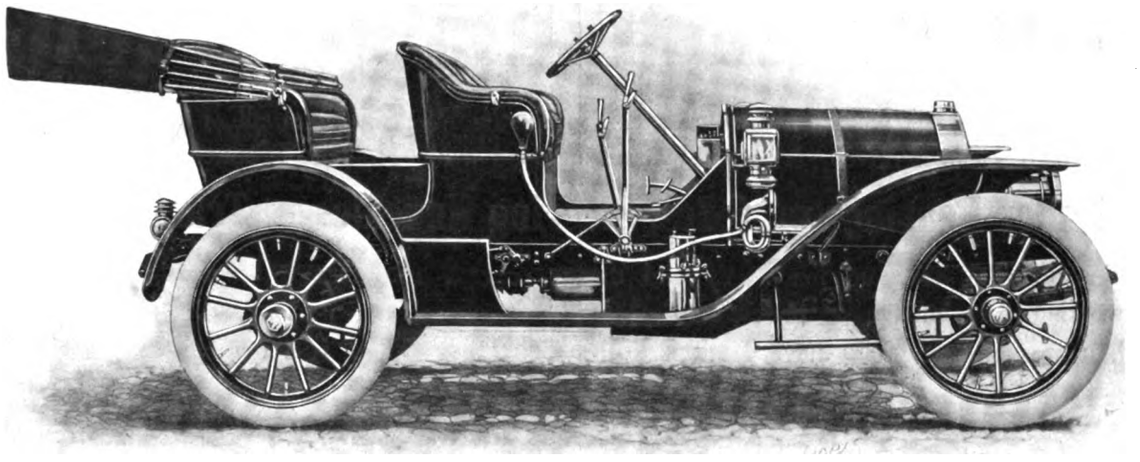
Hartford Rubber Works Co.
Hartford, Conn.

Morgan & Wright
Detroit, Mich.

G & J Tire Co.
Indianapolis, Ind.

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APPERSON



Model O, 30 H. P., Baby Tonneau, $2,450.

Model O may be had with 5 passenger touring car body, or 3 passenger runabout body at same price.

Apperson Bros., the oldest established automobile makers in America, invite correspondence with reliable dealers in open territory.

All Apperson cars are fully equipped with double ignition (magneto and storage battery) five lamps and generator, tire carrier, tools, etc.

THE APPERSON LINE

Model O—3 styles of body, 30 H. P	$2,450.00
Model M—2 styles of body, 35-40 H. P	3,000.00
Model M—5 passenger touring car	3,350.00
Model I—7 passenger touring car, 40-45 H. P	4,200.00
Model K—7 passenger touring car, 50-55 H. P	4,700.00
Apperson "Jack Rabbit"—2 passenger speed car	5,000.00
Model S—Six Cylinder, 50-55 H. P., 7 passenger touring car	5,500.00

In October we shall have ready for delivery a light 40 H. P. Six Cylinder 5 passenger Touring Car to sell at a low price.

APPERSON BROS. AUTOMOBILE COMPANY

KOKOMO, INDIANA

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The Glidden 1908 tour was won on

Timken Roller Bearings

Foremost among the winners were the three cars composing the Peerless Team, all of which finished the 1700 miles running with clean scores. All three were equipped with **Timken Product.**

Timken Roller Bearings on Axles, Steering Knuckles and Transmission Gears

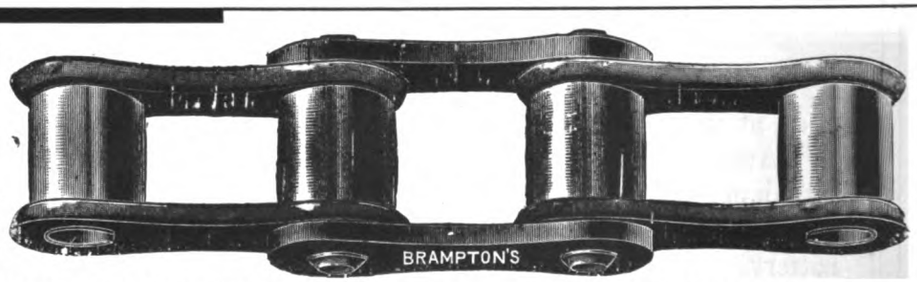
reduce friction to zero, take up load and end thrust—prevent resistance to engine—save wear and tear on every working part and make perfect scores possible.

The best cars of every make have **Timken Roller Bearings.** There is a reason. Let us give it to you.

THE TIMKEN ROLLER BEARING AXLE COMPANY, Canton, Ohio

Branches: 10 E. 31st Street, New York. 429 Wabash Avenue, Chicago.

THE BRAMPTON MOTOR CHAIN



All side plates on both sides of the Brampton Chain are stamped "BRAMPTON."

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement. THE BRAMPTON CHAIN is made of self-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like THE CELEBRATED BRAMPTON CHAIN because some of the other chain makers began to copy the design and shape of the BRAMPTON CHAIN links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the BRAMPTON CHAIN than ever before. These chains somewhat resemble the BRAMPTON in appearance, but the manufacturers of such chains have been unable to copy the material —self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the BRAMPTON MOTOR CHAIN in the past ten years.—"ENUF SED."

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the BRAMPTON FILLS THE BILL, and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size. We have in stock chains to fit all American and foreign cars.

YOUR 1909 CAR

You can have the new car that you order fitted with the CELEBRATED BRAMPTON CHAIN if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.
Agents wanted in unoccupied territory. Catalog on request.

CHAS. E. MILLER, Manufacturer, Jobber, Exporter and Importer
Main Office: 97-99-101 Reade Street, **New York**

BRANCHES: 54th St. and 8th Ave., New York. 318-320 N. Broad St., Philadelphia, Pa. 1829 Euclid Ave., Cleveland, O. 824 Main St., Buffalo.
202-204 Columbus Ave., Boston, Mass. 227½-229 Jefferson Ave., Detroit. 1392 Bedford Ave., Brooklyn, N. Y.

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Stewart Speedometer

For 1909 we announce the most complete and beautiful line of SPEEDOMETERS ever shown—values not possible for any other speed indicator to even equal.

They combine features of workmanship, materials, construction, equipment and performance that have never been equaled by any speed indicator at any price.



Model 5, 90 mile, $50.
Model 4, 60 mile, $40.

Model 4. The same beautifully designed instrument as of last season, to which we have added an improved trip register of three dials, recording miles and tenths, which can be reset to a zero automatically. This instrument will also be equipped with a maximum speed hand. The construction of the mechanism for operating the trip and maximum hands is different to any heretofore used, and enables us to eliminate springs and other devices liable to derangement. Price, ... **$40.00**

Model 5. A duplicate of Model 4 in every feature, but made to indicate speed of 90 miles. Price last season $75, but owing to the enormous quantities being sold we will this season list the same at **$50.00**

Model 9. Comprises the No. 4 Speedometer and a 4-inch 8-day Chelsea Clock, the best automobile clock on the market; both mounted on a handsome brass base, and equipped with electric light **The most attractive combination possible.** Price, ... **$75.00**

Model 11. Something entirely new in speedometer construction. A 4-inch instrument similar in design to the Model 4, but will indicate speed from zero to 60 miles; is equipped with both season and trip register and automatic resetting device. The scale is three times the length of that used on any other speedometer, and which makes it the most easily read indicator on the market. The construction is of the costliest kind, every part is of the same high standard used in all our instruments and includes jewel bearings. **This instrument is destined to be the quickest selling, most attractive, most satisfying of all instruments, regardless of price.** Price, . . **$25.00**



Model 11, $25.



Model 12, $15.

Model 10. A combination of the above described Model 11 speedometer and 8-day Chelsea Clock, mounted on a brass base, equipped with electric light. Price, . . **$60.00**

Model 12. The handsomest little instrument ever produced; will indicate speed of 50 miles; has enclosed season odometer with capacity of 10,000 miles. Is in every feature the same as our $25 instrument of last season, with the exception that it is made with a 3-inch dial. **It is a thoroughly high grade instrument, better than any other speedometer, as a trial alongside any other make will prove.**

All Models to be equipped with the famous Stewart Flexible Shaft and Swivel Joint, and all are **covered by an ironclad 5-year guarantee.** Send for our 1909 catalog.

STEWART & CLARK MFG. CO. 509 Diversey Blvd. Chicago, U. S. A.

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THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

$ 2 0 0 0

Touring Car **Roadster**
Limousine **Landaulet**

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.

ROCHESTER, N. Y.

Member A. L. A. M.

TIME WAS when tire worry spoiled much of the enjoyment of motoring and the motorist who footed the bills had no voice in the matter.

THEN CAME THE AJAX wrapped tread tire with its superior services.

AND NEXT THE AJAX 5,000 MILE GUARANTEE —If the user of Ajax tires fails to obtain 5,000 miles service from his tire, it is for us to worry—not him, and we make good.

WITH AJAX TIRES the tire problem resolves itself into a plain proposition. We know that they will do, and we offer you the best kind of an insurance for expressing your willingness to find out for yourself.

IS THERE ANYTHING MORE BUSINESS-LIKE THAN THIS?

Write for copy of Guarantee, stating what size tire you are using.
Address Dept. A.

AJAX-GRIEB RUBBER COMPANY

GENERAL OFFICES: N. E. Cor. 57th St. and Broadway, New York
Factories: Trenton, N. J.

BRANCHES:
New York, 1776 Broadway — Denver, 1529 Cleveland Place
Boston, 819-a Boylston St. — Seattle, 1102 Broadway
Chicago, 1418 Michigan Ave. — San Francisco, 460 Golden Gate Ave.
Detroit, 743 Woodwood Ave. — Los Angeles, 1040 S. Main St.

Agents in all large cities.

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FRANKLIN 1909

24-Hour Bretton Woods Endurance Run

Franklin 1909, Model D, finished with perfect score.

The difference between weight and strength.

Did you notice that the only axles broken in the Glidden Tour were of the solid I-beam type?

There is no better example of the uselessness and disadvantage of useless weight. The ordinary I-beam axle weighs twice as much as the Franklin tubular axle, yet the Franklin axle is a good deal stronger. It is made of 3½ per cent. nickel steel, with a tensile strength of 240,000 pounds to the square inch.

In the same way the Franklin drive-shaft is stronger than an ordinary drive-shaft of considerably greater section and weight.

The Franklin white ash frame built up in transverse layers, is stronger than the ordinary steel frame, although lighter.

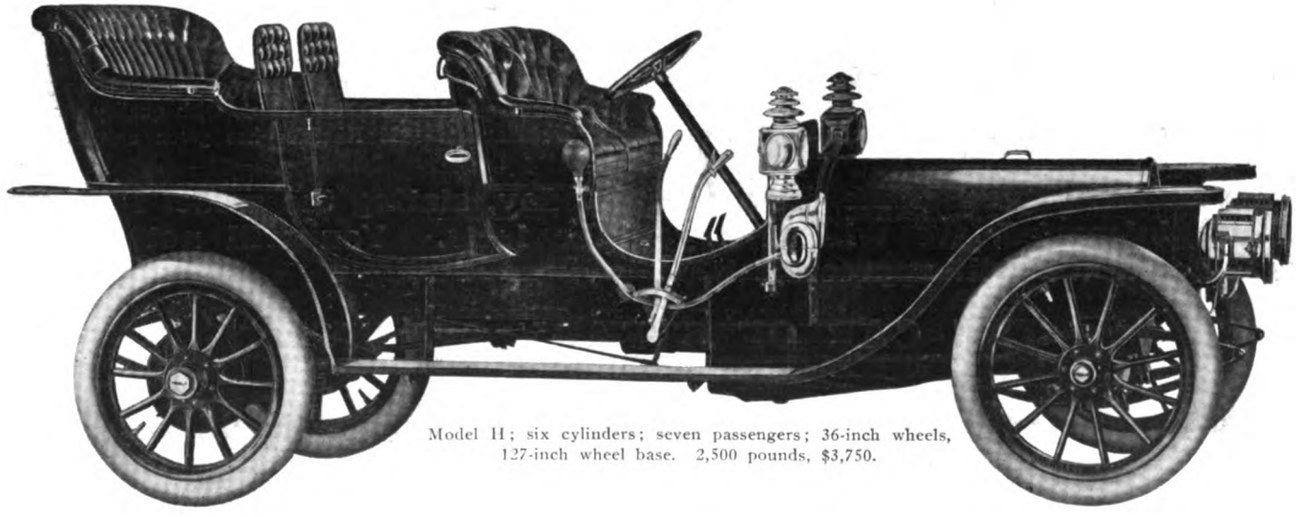
Nobody imagines that heavy water-cooling apparatus makes an automobile any stronger. This extra weight is simply one of the undesirable necessities that go with a water-cooled design. By getting rid of this weight and the complication that goes with it, every Franklin model is stronger and safer, as well as more reliable than the average water-cooled automobile that weighs fully a third more, and costs in proportion more to maintain.

The biggest mistake in automobile making is useless weight and bulk.

G 18 H. P.	Touring Car, $1,850. Runabout with hamper	$1,750
	With single or double rumble	1,800
D 28 H. P.	Five-passenger touring car	2,800
	Or Runabout with single or double rumble	2,700
H 42 H. P.	Seven-passenger touring car	3,750
	Or Runabout with single or double rumble	3,600
	Brougham, Landaulets, Limousine, Town-car.	

Prices f. o. b. Syracuse. Write for catalogue that explains Franklin construction and the Franklin models in detail.

H. H. FRANKLIN MANUFACTURING CO., Syracuse, N. Y.

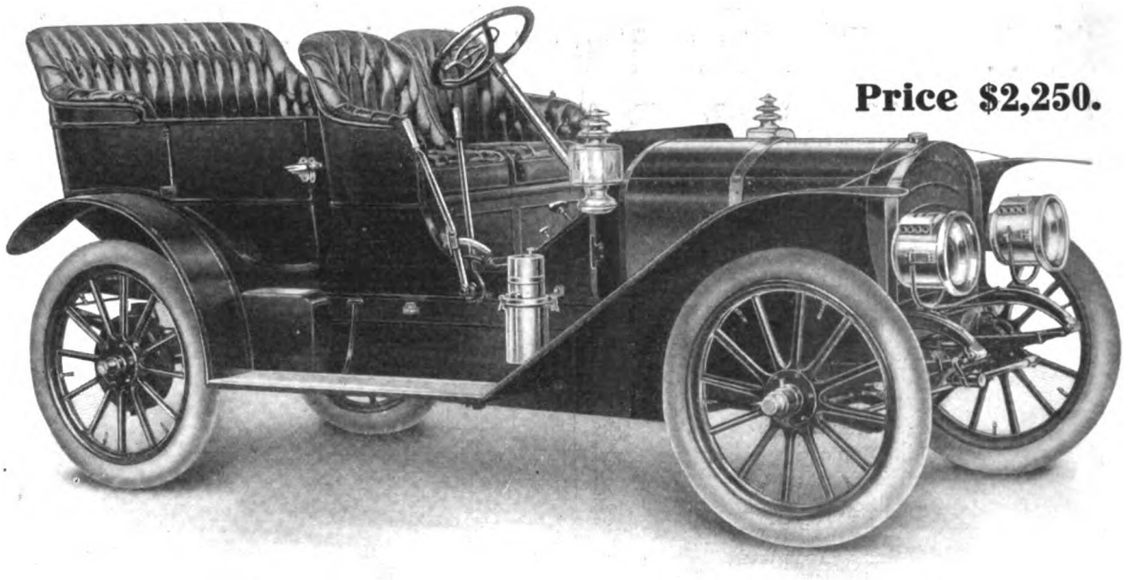


Model H; six cylinders; seven passengers; 36-inch wheels, 127-inch wheel base. 2,500 pounds, $3,750.

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Rambler

Model 34



Price $2,250.

THE ADVANTAGES OF THE STRAIGHT LINE DRIVE

Here are some good reasons why the Rambler straight line drive is such a good mechanical feature.

Because it saves you money. Power cannot be carried around a corner without great loss, due to friction. For every bit of energy wasted by friction in the ordinary automobile in transmitting the power from the engine to the rear axle, through universal joints, or, in other words, around corners, you pay just that much more for gasoline and for oil.

The Rambler straight line drive delivers the maximum power of the engine direct to the rear axle, without unnecessary loss through friction. With the offset crank shaft, to further reduce friction when the engine is running under load; with the extra large wheels, big tires and long wheel base to provide perfect comfort; with quality embodied in every detail of the Rambler construction, it is no wonder that the 1908 Rambler has given universal satisfaction.

If you write your name on a postal today, stating the model in which you are interested, we will give you the facts. You will not obligate yourself and we will appreciate it.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco.

Representatives in all leading cities.

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, October 1, 1908. No. 1

IMPERIAL IN RECEIVER'S HANDS

Williamsport Concern Gets into Difficulties Through Lack of Capital—Made Few Recent Purchases.

After a considerable period of financial uncertainty, the Imperial Motor Car Co., of Williamsport, Pa., has gone into the hands of a receiver. Rumors that such action was likely have had liberal circulation in the trade for quite a time, as it was known that the concern was seriously hampered in its operations by lack of adequate capital. Although never assuming any large importance, the company made something of a stir about a year ago by a vigorous introductory campaign for its product, the Imperial roadster, emphasis being placed on its straight line drive, "double drop" frame and other constructional refinements.

Activity in the selling end of the organization came to a standstill some months back, however, and the fact that preparations for the 1909 season have not seemed to be under any very great headway has portended the possibility of the present difficulty. Until the receiver has had the opportunity to investigate the company's affairs, no estimates of the proportion of assets to liabilities are available.

Muncie's Factory is Under Way.

Until Thomas F. Hart, the head of the enterprise, can sort out the 1,500 prize offer suggestions for a good name for his automobile company which he has received from the citizens of Muncie, Ind., and can select the most felicitous and suitable one, the concern must go nameless, but the deficiency is not delaying the construction of a large factory on a 14-acre site which has been bought in Muncie's manufacturing district. The capital stock of the company will be $200,000, subject to subsequent increase, and the probable stockholders in addition to Hart will include Madison Maring, T. F. Rose and Ball brothers, the latter being well known Muncie glass manufacturers. All are said to be men of wealth. Claude E. Cox, of Indianapolis, Ind., has been engaged as chief mechanical engineer, and the production will be runabouts and touring cars of medium price. Cox was formerly connected with the Overland Automobile Co., of Indianapolis, Ind., and the new concern's announced intention to "turn out a machine almost identical with one that has been a success on the market," is thought to be not without significance. Past association with the glass business has lead Hart and the others to decide on glass and steel construction for the factory buildings. The side walls will be chiefly of glass.

Chester Company Making Cabs.

Cabs for taximeter service are being made by the Chester Engineering & Machine Co., of Chester, Pa., under contract for Messrs. Hinkle, O'Brien and Lewis, of Philadelphia, who have the concession for the Bellevue-Stratford hotel in the latter city. Six of the 25 machines ordered have already been completed and plans are being considered to have the Chester concern continue to manufacture similar cabs for the general market.

Orders Muncie Parts Claims Paid.

Claims against the defunct Muncie Auto Parts Co., of Muncie, Ind., to the amount of $32,000, including interest, have been allowed by the court and ordered paid by Judge Joseph G. Leffler. In accordance with the court order Harvey Hooke, the receiver, is now trying to convert the assets into cash, the holdings having been appraised at $34,000.

Leaves Corbin for Continental.

W. J. Surre has resigned as secretary of the Corbin Screw Corporation, New Britain, Conn., to become the eastern sales manager of the Continental Rubber Works, of Erie, Pa. His headquarters will be in New York City. The vacancy in the Corbin company has been filled by the election of George P. Spear as secretary and a director.

NEW WAVERLEY OWNERS ORGANIZE

Indianapolis Interests Buy Plant and Business Outright from Pope—Court Approves Terms.

Following the sale of the Pope-Waverley plant at Indianapolis, Ind., to the interests represented by Herbert H. Rice and Wilbur C. Johnson, the purchasers have organized as The Waverley Company and will conduct the business entirely independent of the former owners. The sale was practically completed on September 25, when Judge A. B. Anderson, in the United States district court, directed Albert L. Pope, as receiver for the Pope Motor Car Co., to accept the offer of $200,000 made by Rice and Johnson, the sale to take effect as dating from July 1, with the provision that the $101,000 bank balance held by the plant in Indianapolis banks at the time of the order be turned over to the receiver or a corresponding amount added to the purchase price. The sale includes the property, merchandise, patents, good will and businesss.

The new owners have organized under Indiana laws with a capitalization of $225,000. The company is headed by William B. Cooley as president, with Herbert H. Rice, vice-president; Carl von Hake, treasurer; and Wilbur C. Johnson, secretary. Continuing in the positions they occupied under the Pope regime, Rice will remain as general manager and Johnson as his assistant. The product, as heretofore, will be Waverley electric carriages and commercial trucks.

The capital which made the purchase possible is said to be in no way allied with any other automobile interests, having been supplied chiefly by Indianapolis capitalists whom Rice and Johnson interested shortly after the Pope failure. For the present the factory and sales organization will remain unchanged. The uniform prosperity of the Waverley department in the past indicates future success.

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In the Retail World.

Earle H. Nevins, of Shabbona, Ill., has started a garage. He will also maintain a repair department, and will sell accessories.

The assets of the bankrupt R. O. Williams Automobile Co., of Columbus, O., amount to $9,547.03 according to the report filed by H. C. Moore, the receiver. The liabilities have not as yet been fully listed.

R. M. Maxfield, of the automobile firm of Maxfield & Rice Bros., Minneapolis, Minn., has purchased the interests of W. C. Rice and W. R. Rice, and will conduct the business alone. The present location at 1401 Hennepin avenue will be retained.

A Cadillac branch is to be opened in Spokane, Wash. Factory representatives are at present arranging for the erection of a garage on the south side of Front avenue, between Wall and Post streets, on the east side of the Salvation Army building.

Robert J. Bronson, proprietor of the Bronson Automobile Repair Co., Milwaukee and River streets, Elgin, Ill., has disappeared from local view, much to the alarm of Elgin creditors. After his departure his establishment presented a barren appearance, except for some few cars left in the garage by patrons.

The Southern Automobile Co., of Charlotte, N. C., has succeeded to Ham & Ross in the agency for Maxwell and Jackson cars and has opened up its salesrooms in the Auditorium building. The new concern is capitalized at $25,000, with J. H. Hamm, president and manager, and J. W. Zimmerman secretary and treasurer.

The Holcomb Co., of New Haven, Conn., which in addition to manufacturing tops for the trade has the agency for several well known cars, is opening a downtown wholesale and retail store for the sale of automobile supplies, at 290-292 Wooster street. This is quite apart from the office, factory and garage at 97-115 Goffe street.

In an effort to straddle successfully the "licensed" and "unlicensed" agency problem, Charles Schmitt, of Hamilton, O., has formed the Butler Auto Co., which he will manage in addition to the West Side Auto Co., of which he is the head. The Butler company will handle only "licensed" cars, while the West Side offerings will be "unlicensed."

"Bennett's Garage" will shortly open in Findlay, O., with the agency for four makes of car, a complete sundry and accessory department, and adequate garaging and repair facilities. Although the sales department will be in charge of F. J. Collinwood and the garaging under Harry Bennett, the ownership of the concern will reside in the C. F. Jackson Co., proprietors of the Glass Block Department Store.

Takes Pope New York Agency.

New York City representation for the Pope-Hartford, which has been the subpect of trade speculation since the relinquishment of the agency by A. G. Southworth, has been settled by the formation of the Pope-Hartford Automobile Co., of New York, which will handle the Pope Mfg. Co.'s cars in Greater New York and its vicinity. The new company, which has been incorporated under New Jersey laws, with $50,000 capital, has taken quarters at 1853 Broadway and has already commenced its selling campaign. H. E. Holt, the president of the company, although having no previous connection with the automobile trade, is experienced and able in commercial affairs, while Benjamin E. Fincke and Charles A. Dickson, of Newark, N. J., treasurer and secretary, respectively, have sold the Pope-Hartford in New Jersey for several years and have been very successful in that field.

Wagner-Field Agency Gets Clients.

Among the first accounts of the newly formed Wagner-Field automobile advertising agency, composed of Fred J. Wagner and Russell A. Field, is the publicity work for the Vanderbilt Cup Commission, in connection with the sweepstakes and Vanderbilt Cup races, the new organization having been entrusted with the heralding of the grandstand and parking accommodations. Through former connections with an automobile publication and as the official starter of the chief motor car racing events, Wagner is well known to the trade, while Field has been automobile editor of a Brooklyn newspaper. Offices have been taken at 1777 Broadway, in the Thoroughfare building, New York City.

Canary Provides Taxi-Service for Chicago.

Dan Canary, one of Chicago's pioneers in automobile matters and who has had a most wide and varied experience in motor car affairs, is starting a taximeter cab enterprise in the Windy City which is to be known as the Dan Canary Tax-I-Service Co. The nucleus for his "fleet," as he designates it, is six Thomas 1909 cabs equipped with Jones taximeters, the vehicles going into commission on October 10, after which date more of the cabs will be added rapidly and regularly. Temporary headquarters have been taken at the old Pardee & Canary salesrooms, 1218-20 Michigan avenue.

A Philadelphia Branch for Maxwell-Briscoe.

William F. Smith, Philadelphia branch manager for Thomas B. Jeffery & Co., has resigned to become territorial manager for the Maxwell-Briscoe Motor Co., of Tarrytown, N. Y. He will have his headquarters in the Quaker City, where a Maxwell-Briscoe branch is to be established.

Haynes Plans Increase of Capital.

An increase of capital for the Haynes Automobile Co., of Kokomo, Ind., is being planned to the extent of $180,000. Investors in Kokomo are said to be prepared to take $130,000 of the amount, while outside capitalists have arranged for the $50,000 remainder.

The Week's Incorporations.

Wilson, Kan.—Wilson Automobile & Garage Co., under Kansas laws, with $3,000 capital.

Detroit, Mich.—National Motor Casting Co., under Michigan laws, with $14,000 capital.

Vincennes, Ind.—Johnson Auto Co., under Indiana laws, with $10,000 capital. Corporators—C. E. Dailey, F. P. Emison, and W. T. Johnson.

Chicago, Ill.—Central Wheel Co., under Illinois laws, with $2,500 capital. Corporators—John T. Watters, Emma Westendorf, Anna J. Westendorf.

South Bend, Ind.—White Garage Co., under Indiana laws, with $10,000 capital. Corporators—Cyrus C. Shafer, Thos. W. Slick, John Shafer and W. A. Slick.

Boston, Mass.—Gray-Aldrich Co., under Massachusetts laws, with $25,000 capital; to manufacture and deal in gas and gasolene engines. Corporators—E. Gray and C. S. Aldrich.

Nashville, Tenn.—Crescent Automobile Co., under Tennessee laws, with $15,000 capital. Corporators—J. A. Wardlow, F. W. Wallace, S. B. Cook, C. N. Woodworth, W. H. Ward.

Boston, Mass.—Oulton Motor & Manufacturing Co., under Massachusetts laws, with $200,000 capital; to manufacture and deal in hydrocarbon motors. Corporators—A. C. Morrison and T. Le Baron.

Buffalo, N. Y.—Chester Auto & Tire Filling Co., under New York laws, with $50,000 capital. Corporators—Theodore Chester, of Sudbury, Pa.; Asbury Chester, Wilson Chester, Harold Carle and H. C. Harrison, of Buffalo.

Brooklyn, N. Y.—Long Island Auto Supply Mfg. Co., under New York laws, with $25,000 capital; to manufacture automobile supplies. Corporators—L. Handel, New York City; H. L. Carr and C. Knopf, Brooklyn.

Wayne-Northern Merger Nears Completion.

Although the $1,000,000 Everitt-Metzger-Flanders Co., of Detroit, Mich., which was based on an amalgamation of the Wayne and Northern interests has been doing business right along, it has been generally known in the trade that the completion of the merger had been delayed. It is now said, however, that the details of the plan have finally been agreed upon and that its consummation will go into effect within the next five or six days. By this means the E-M-F concern acquires the license of the Northern Motor Car Co., and its membership in the Licensed Association of Automobile Manufacturers. The Northern stockholders will take stock in the newer concern, but otherwise there will be no changes, as is explained. Proxies are being obtained of the Northern holdings in Port Huron preliminary to the call for a ratification meeting.

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BRITISHERS AVOIDING BIG CARS

Small Machines Hold Their Own in a Declining Market—Upkeep Cost a Large Factor.

London, Sept. 22—Notwithstanding the enormous increase in the employment of the motor car both for business and pleasure purposes, there can be no disguising the fact that, at the present time, the motor trade of Great Britain is in a very grave position; so grave in fact that it is most difficult to say what will happen during the next three or four years. Although to a certain extent the depression is felt upon the Continent, yet there it may be partly due to over-production, coupled with, and, indeed, largely caused by, high prices. To a certain degree these causes have conduced to the existing state of things in England, but this general remark applies mostly to those firms who have devoted themselves almost entirely to the production of cars of high power. The fact is that with, perhaps, one solitary exception, the sales of large cars have fallen off tremendously.

There are several reasons for this, but the principal one is the question of upkeep, which, with the present prices of tires, is truly terrible, and forces itself unpleasantly upon every owner who does not come within the category of the very rich. On the other hand, this heavy depreciation of such vehicles is largely due to the cost of running, at at present, cars which were purchased for from £800 to £1,000 less than two years ago, and are now in perfect running order, can be obtained, second-hand, for £200, or even less. That there is considerable difficulty in finding buyers even at this low price is due to the fact that the cost of running—for that is what "upkeep" really means—is now understood, and the class who can afford to spend £1,000 a year on motoring is strictly limited.

But there is still a demand for small and moderately small cars, though this has received a certain check owing to the number of large vehicles which have been thrown on the market. As a matter of fact the demand for the small car can be best gauged by the prices of second hand vehicles of this class. A reference to advertisement columns of second-hand cars will show this, for it is quite common to see a vehicle which cost not more than £250 new, offered and sold a year later for £200 or even more. Apart from this, the demand is further proved by the fact that for every car thus advertised there are usually many applications. So far then as the medium and small cars, vehicles of from 6 horsepower to 12 horsepower, are concerned, there is little fear for the trade, if only the manufacturers will realize that they must work upon business lines.

Cheap Mail to England in Effect.

More or less extensive relations which the cis-Atlantic automobile trade enjoys with British concerns have in the past been ruffled by the forgetfulness of the American correspondents about the necessity for five cent stamps on the letter envelopes, resulting in additional penalty collections and some hard feeling on the other side. Beginning with the date of this issue, however, letter postage to England is reduced to 2 cents per half ounce, so that one common red stamp will ordinarily suffice.

Windsor Will Make Motor Buggies.

Automobile buggies of the Stanhope type are now being produced at the plant of the Windsor Carriage & Delivery Wagon Works, 100 London street West, Windsor, Ontario, the small Canadian city which lies opposite Detroit. A strong Canadian demand for the buggy type of motor vehicle has determined the company upon extensive manufacture along this line.

Columbia Carriage Produces a Car.

Hamilton, O., is proud over the fact that buggy type automobiles are now being produced within its borders, the Columbia Carriage Co., of that place, having exhibited on the street one of its new 12 horsepower runabout models. The company intends making motor buggies a feature of its line.

Davis to Do Pierce Publicity.

George M. Davis, formerly publicity promoter for the E. R. Thomas Motor Co., of Buffalo, and more recently interested in electrics, has joined the forces of the George N. Pierce Co., Buffalo, N. Y. While publicity may constitute a large part of his work for the Pierce company, his activities will not be entirely along advertising lines.

Locomotive Lights Lear Factory.

Sparks from a passing locomotive and spontaneous combustion from oily rags are two of the various causes assigned for a serious fire at the plant of the Oscar Lear Automobile Co., Springfield, O. The damage to the testing rooms and warehouse is estimated at between $5,000 and $10,000.

Deal Develops a Buggy Type.

Motor buggies have been taken up by the Deal Buggy Co., of Jonesville, Mich. The concern has heretofore been known only as manufacturers of horse drawn vehicles, but a new department has been created which will devote itself to the motor propelled types.

Hayes Acquires National Wheel.

The controlling interest in the National Wheel Co., of Jackson, Mich., having been bought by Clarence B. Hayes, the concern is to be reorganized and the capital and equipment greatly increased. The name will in all probability be changed to the Hayes Wheel Co.

READY MARKET FOR STOLEN TIRES

Chicago Police Discover an Alleged "Fence" System—Rubber Company Manager is Arrested.

Traffic in stolen automobile tires, which from single instances of crooked deals among chauffeurs and garage men has latterly developed into an extensive evil, received a setback last Friday in Chicago when the police took into custody John Sweeney, alias John Johnson, and Alexander Lavander, who subsequently confessed jointly to having stolen about 200 cases and tubes and who disclosed what is declared to be a bold and well organized system for the theft and sale of tires for motor cars. As a result of their disclosures, Charles H. Knight, manager of the Chicago Rubber Co., 425 Wabash avenue, was arrested and nearly $10,000 worth of alleged stolen tires recovered.

Four patrol wagon loads of the stolen property were hauled to the Central police station without fully exhausting the supply. The detectives went to the plant armed with a search warrant obtained by Dr. F. L. Hollenbeck, from whose machine a spare tire was taken two weeks ago. Upon being placed under arrest, Manager Knight, of the rubber company, admitted that he had purchased tires from the two culprits whom the police had induced to confess, but he maintained that he did not know that he was buying stolen goods.

The arrests in the case were brought about by detectives seeing Sweeney taking a spare tire from a machine standing by the curb. They questioned him and he told them he was employed by the owner of the car and had been sent to take the tire to a garage. He was taken in tow, however. Later he implicated the others. According to Sweeney and Lavander, the manager of the rubber company paid from $7 to $10 apiece for the tires they stole, and told them that he would buy all they were able to bring to him.

Tire Robbers Take to Diamonds.

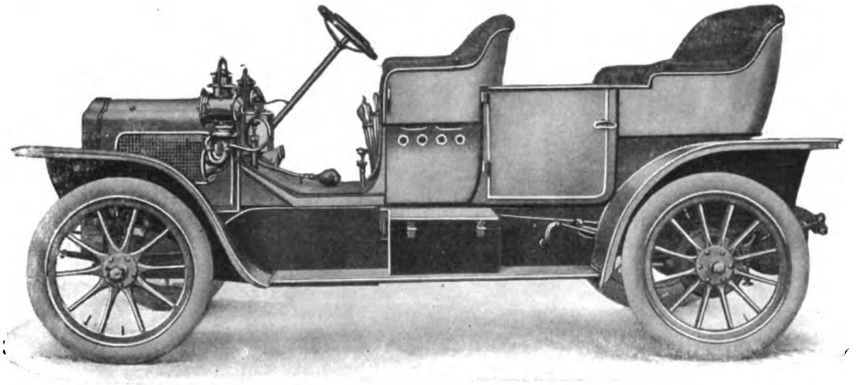
Offers of Diamond tires at suspiciously low prices may have an explanation in the fact that robbers broke open the rear window of the Diamond Rubber Co.'s branch at Cleveland, O., on Saturday night, the 26th ult., and stole over $1,000 worth of tubes and casings. Tracks of a horse and wagon in the alley indicated that the thieves had made careful preparation for a wholesale haul.

Streator Factory Spreading Out.

Two new concrete factory buildings are being constructed for the Streator Motor Car Co., of Streator, Ill. A greatly increased rpoduction for next year is being planned.

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THE 1909 WHITE STEAM CARS



During the coming season, the White Steam Cars will be built in two distinct models which, while differing widely in size, in power and in price, will follow the same general lines of construction. The horse-power ratings of these cars are based on the actual power delivered at the rear wheels, not merely on formulas or on the power delivered at the engine.

The larger of the new cars is known as the Model "M." It is rated at 40 steam horse-power and sells for $4,000, f. o. b. Cleveland, equipped with acetylene headlights and tank, oil lamps, horn and tool kit. The wheel base is 122 inches; the front tires 36 x 4 inches and the rear tires 36 x 5 inches. The car is regularly equipped with a straight-line seven-passenger body.

The smaller of the cars (shown in the above illustration) will be known as the Model "O." It is rated at 20 steam horse-power and sells for $2,000, f. o. b. Cleveland, equipped with oil lamps, horn and tool kit. The wheel-base is 104 inches and the tires, both front and rear, are 32 x 3½ inches. The car is regularly equipped with a straight-line five-passenger body.

The power plants of the two models are identical in design, the only difference between them being in the dimensions of the various parts. The principal mechanical change in the new cars, as compared with previous White models, is in the engine. The new engine is fitted with the Joy valve mechanism, instead of the Stephenson valve mechanism. The valves are driven from the connecting rods, as are the pumps. The eccentrics are done away with and the cylinders are brought close together, permitting the use of a short one-piece crank-shaft, with but two main bearings. The number of parts in the engine is reduced by one half and the entire construction greatly simplified.

As in previous models, the generator — the simplest steam-making device ever designed — consists simply of a series of coils of steel tubing joined together. The regulating system, whereby the temperature and pressure of the steam remain constant without in any way engaging or requiring the attention of the operator, is similar to that in the 1908 cars.

A circular containing full details of the new models will be sent on request.

THE WHITE COMPANY

CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.
PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.
SAN FRANCISCO, 1460 Market St.
ATLANTA, 120-122 Marietta St.

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Competitive Commercial Types.

In the field of pleasure vehicles there is small room for discussion as to the respective merits of the gasolene and electric types for the various sorts of work such as may be subject to classification. In the commercial field, however, the lines are less closely drawn and with the probable increase of interest in the rivalry over the capture of the business market it is possible to foresee at no very distant time a sharp controversy as to the comparative value of the two types.

In this connection it is of interest to note the discussion of the advantages of the electric commercial vehicle printed elsewhere in this issue, wherein is predicted a somewhat greater field for it than has been looked forward to in many quarters—particularly in the case of the so-called "mixed" or gasolene-electric type, wherein are blended most of the advantages of both elements with an avoidance of sundry of their disadvantages. Hitherto this system of propulsion has been regarded in the light of a hopeful prospect from the theoretical point of view without receiving much encouragement of a substantial nature in the performance of the limited number of vehicles in service, upon which it has been employed. The statement of the advantages of the simple electric vehicle deriving its power current from storage batteries when it comes to short-haul work is little likely to be combatted.

A point which may be received with some little surprise, however, is that the relative costs of charging current and gasolene are closely comparable. Supposing this to be true within narrow limits, the relative costs of operating electric and gasolene vehicles under similar conditions is reduced to the elements of first cost and cost of maintenance. The cost of storage battery maintenance, when conducted along rational and systematic lines, is known to be very low. Hence the maintenance of the gasolene motor and the change gear, which is an invariable accompaniment to its use, stands forth as the chief disparaging element in the relative economy of the two types. With careful treatment and good design, of course, this factor may be brought down to very low terms. But at present it is commonly rated among commercial vehicle users to be unpleasantly high.

Over against what may be termed present data, however, it must be considered that great numbers of gasolene vehicles of the commercial type have come into general use in passenger haulage within a comparatively short period, so short, in fact, as to preclude any close estimate being placed upon their average performance in the matter of economy. That they are of the most modern design, and constitute a vast improvement in many ways over the older types against which many unfavorable conclusions may be drawn, and that they are proving trustworthy in action, argues favorably for the cost figures of the future. Whether they will prove to be of an economical value commensurate with that of the electric, already reduced to terms of close refinement, will be an important as well as instructive conclusion once it has been reached.

About Locking the Differential.

An unusual and rather conspicuous provision laid down in connection with the regulations established by the British War Office for its light tractor competition is that all machines entered shall be provided with means of locking the differential gearing, the lock to be capable of manipulation from the foot board. Aside from any other interest in the forthcoming event this in itself furnishes a suggestive point for consideration by the commercial vehicle designer. The object is clearly that of providing means of securing traction in one of the driving wheels when the other is mired or is "anchored" on a slippery footing. The provision also may be supposed to contain some small element of safeguard against skidding.

It is commonly agreed that the differential gear, particularly with cars of the pleasure type is and has been in the past, responsible for many serious accidents, and that it is by no means perfectly satisfactory in its performance. It has also been suggested more than once that some provision by which its action would be controlled in proportion to the turning action of the steering wheels, or could be checked at will, would be of great benefit. Indeed, several devices have been placed on the market in which a modified differentiation was secured, and in one case—that of a high-wheeled buggy introduced early this year—a true differential brake is employed for the purpose contemplated in the above-mentioned specifications.

Apart from the utility of such a provision from the standpoint of the pleasure car designer, there is every reason to believe that its application to vehicles of the commercial type would be of the greatest benefit. Owners of trucks of both light and heavy patterns are frequently compelled to resort to extreme measures when hauling over wet or muddy courses as a result of the wild and uncontrolable action of the differential gear. The sticking of one driving wheel tends ordinarily to cause the other to be driven at a rate which precludes the possibility of proper traction being secured. The slipping of one wheel at once removes the driving torque from the other. Differential slipping between the two drivers tends to slew around the driven end of the vehicle, much as the swifter moving pleasure vehicle is made to skid. And usually the only recourse to be had is that of blocking one wheel or the other temporarily.

Aside from its mechanical simplicity and the fact that it is absolutely reliable and automatic, there is indeed, little to recommend the ordinary balance gear to the de-

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signer who is compelled to make every foot pound of motive power tell in the best possible manner. Just when the last ounce of power is most required the automaticity of the differential is apt to interfere to cause considerable losses and vexatious delays. To counteract this effect, it is a comparatively simple matter to provide some method of checking the action temporarily, or, if necessary, of concentrating the drive on either wheel. That such a provision would be well worth its cost almost goes without saying.

Revival of Wayside Entertainment.

A new force in the intrenchment of the motor car in popular esteem is developing in the persons of summer resort proprietors and promoters who more than ever before are coming to appreciate the advantages of catering to that section of the public which is devoted to highway travel. Hitherto their efforts have been so scattered as to be of small importance when considered in the aggregate. The rapidly increasing numbers of motor tourists every year, however, and the fact that its isolation from railroad or steamboat facilities is no longer a bar to the success of an otherwise attractive resort, is having due effect upon the landlords of the more popular recreation centers. Their arousal naturally involves an increase in the number of wayside attractions for the tourist, improvements in accommodations they offer and in the highways by which they are approached and so in a secondary way encourages the constantly increasing importance of the car as a practical means of transportation.

So great has this effect become that even in established resorts where the railroad has long been the chief means of approach and the highroad has been shamefully neglected, the growing use of automobiles has resulted in highway improvements and so, in the increased use of cars until the railroad travel has been impaired to a serious extent. Indeed in one instance the famous "mountain division" of an eastern railroad has suffered a falling off in its receipts during the season now closing of no less than one-third, it is said. The route of the "ideal tour" through the White Mountains of New Hampshire has been clouded with the dust of something like a hundred cars a day on the average this summer, and at one of the resorts in that section no less than 400 guests have sometimes arrived for dinner in touring cars and runabouts.

Hotel men have not been slow to appreciate the advantages to be derived from even the transient trade of the motoring public and their efforts to attract it are in large measure responsible for the tremendous increase in long-distance touring during the past year or two. From this it is easy to see what the future must hold for the vacationist. The lure of the countryside made doubly attractive by the thoughtful provision of mine-host for the comfort of his guests, and the well-laid road to his door which he is also more or less instrumental in providing, must tend to make the motor car more nearly indispensible than ever where recreation is sought.

A Corollary of the Industry.

Despite the continued and frequently offensive presence of vast numbers of cars on the highways it is sometimes difficult to realize the magnitude and importance which has actually been attained by the automobile industry in the few brief years since its inception. Nevertheless, in its relationship to other branches of productive activity it has assumed proportions which are far from negligible. Thus it has recently been credited with assisting in the reinforcement of the copper market—a function which would appear superficially to be about as remote from its general effect as could be imagined. Because of the great demand for brass in lamps, horns, attachments, and to a limited extent in the mechanism itself, as well as the use of copper in alloy, it is said that the automobile is responsible for an increase of no less than 6,000,000 pounds in the sales of domestic copper so far this year as compared with last. This statement appears less incredible when it is said that there are estimated to be some 250 pounds of copper consumed in the production of each average car.

"Dunc" Curry, the clairvoyant, auto editor, etc., attached to the Hearst establishment "has 'em again." Having decided that he is the automobile public, and that all the national associations are contained within his person, he has commenced to imagine that he is the whole industry, also. Having informed an anxious world what he, in the role of Automobile Public "demanded," and "officially accepted" records which are unacceptable by all rules of sport, he now has let the same world know the "unanimous wishes of the trade." Unless his employer is able to induce him to depend less on clairvoyance and more on the recognized rules of sport, and to understand that one, two, or three men do not constitute a national organization, and unless his friends can induce him occasionally to stand in front of an unmagnifying mirror, it soon may become necessary to write it "Donk" Curry.

COMING EVENTS

October 1-2, Indianapolis, Ind.—Indianapolis Automobile Trade Association's sealed bonnet endurance run.

October 2, Poughkeepsie, N. Y.—Race meet in conjunction with Dutchess County Fair.

October 2-3, Brighton Beach, L. I.—Moto Racing Association's 24 hours race.

October 6-9, Chicago, Ill.—Chicago Motor Club's 1,000 miles reliability run.

October 7, 8, 9, Cleveland-Toledo, Ohio—Cleveland Automobile Club's reliability contest.

October 10, Philadelphia, Pa.—Quaker City Motor Club's 200 miles road race, Fairmount Park.

October 10, Long Island—Motor Parkway sweepstakes for stock cars.

October 10, Providence, R. I.—Rhode Island Automobile Club's race meet, Narragansett Park.

October 14-16, Cleveland, O.—Cleveland Automobile Club's reliability run.

October 17, Hartford, Conn.—Automobile Club of Hartford's hill climb, Avon Mountain.

October 17, Kansas City, Mo.—Automobile Club of Kansas City's race meet, Elm Ridge track.

October 24, Long Island.—Vanderbilt cup contest.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles race.

In connection with the present popularity of 24 hours races and the brave array of "records" which is trailing out in their wake it is pertinent to inquire whether anyone at present connected with the promotion of such affairs is aware of the real world's record distance for a drive of twice around the clock. For the benefit of those who cannot do so, it is well to refer to the date of June 28-29, 1907, when Selwyn F. Edge, of London, England, eclipsed all previous records by driving 1,581 miles 1,310 yards around the Brooklands motordrome in exactly 24 hours. This was a continuous one-man performance which, at that remote period was thought to be practically unapproachable.

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TRIO OF CARS STILL RUNNING

Persistency of Perfect Scores Prolongs Boston-Bretton Woods Contest—Survivors of Five Runs Start Again.

What may become of "endurance" contests in the days when cars are perfect and highways beyond reproach is being forecasted in Northern New England this week where three patient survivors of the Bay State Automobile Association's Boston-Bretton Woods 24 hours run are still striving to eliminate one another, a full week after the nominal conclusion of the event. Originally there were 22 cars in the contest. But that was last Wednesday, 23d ult., when the affair was still being considered in the light of a 24 hours run. As a matter of fact nine cars survived the difficulties of the first round to the White Mountains and returned with equally good prospects of being awarded the $200 trophy. Of the remainder of the score or two, 6 were under the shadow of penalization, while the balance fell by the wayside.



CONTESTANTS IN CONTROL AT BRETTON WOODS

To comprehend what is involved in the long-continuance of the tie, it must be understood that perfect score involved not simply covering the 375 miles and over of the course on schedule time, and that the course embraced all the charm of highway variety New England is capable of affording, but that the distance must be covered without making a single adjustment to the car or stopping the engine except at one point specified in the schedule.

On Friday following the nominal conclusion of the contest, the nine surviving cars with their drivers entered upon the process of elimination which has since been going on. By degrees the list was narrowed down until last (Wednesday) night, when but three remained, namely W. G. Jones' Studebaker, Dan Carris's Franklin, and H. Church's Shawmut. Up to the commencement of the run-off, the status of the contest, expressed in tabular form, was as follows:

Perfect Scores at End of 24 Hours.

Frank E. Wing, Marmon.
Harry Fosdick, Lancia.
A. Ayer, Shawmut.
H. Church, Shawmut.
Dan Carris, Franklin.
W. G. Jones, Studebaker.
F. Snyder, Oldsmobile.
Fred H. Pratt, Reo.
J. Coakley, Buick.

Penalizations End of 24 Hours.

	Points Lost.
E. W. Williams, Rambler	1
Harry W. Knight, Pierce	2
A. T. Fuller, Cadillac	22
S. F. Goss, Corbin	25
William Hilliard, Lancia	74
Oliver Light, Chalmers-Detroit	96
*C. Canterbury, Stevens-Duryea	1,000
*Frank Wentworth, Overland	1,000
*Lacaine, Buick	1,000
*L. Dore, Overland	1,000
*Mrs. Mabel Stearns, Overland	1,000
*A. H. Waitt, Buick	1,000

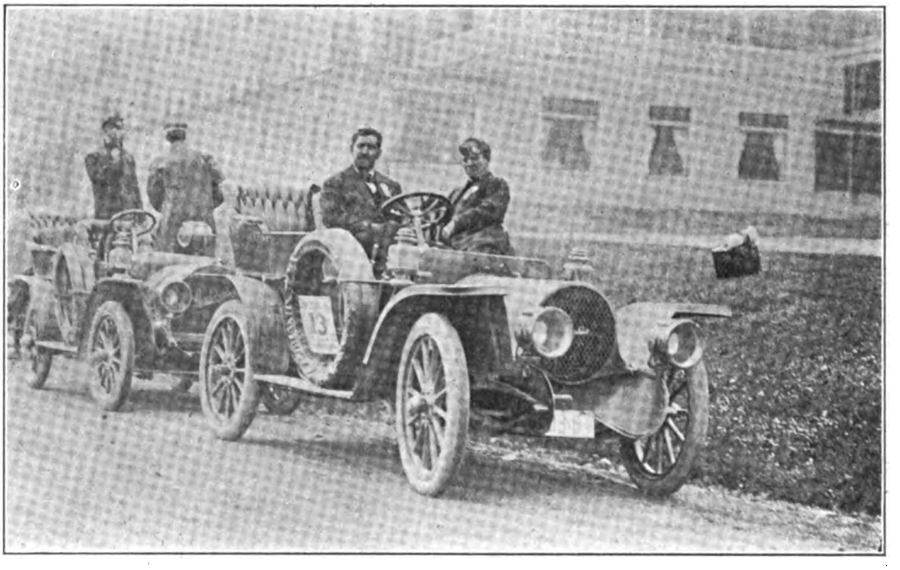
* Withdrew.

The contest had a highly spectacular start. Beginning in the dead of night, it was exceptional in being the first road contest to set out in this manner and the cars with their acetylene searchlights presented a weird appearance as they lined up in front of the Bay State Automobile Association's club house at 10 p. m., awaiting the word "go." A crowd of several thousand persons was on hand to see the start.

The run to Bretton Woods was made via Portsmouth, Rochester, N. H., and the Ossippees, and almost at the very outset cars began to have trouble. The majority carried four headlights with an extra movable searchlight to spot sign posts, but the dense pall of smoke from the forest fires, combined with a damp fog, was too heavy for the shafts of light to penetrate to any distance. Consequently the road was extremely hard to pick and caused several drivers to lose their way.

As far as Portsmouth, N. H., the route was excellent, but between that point and Rochester the character of the roads suddenly changed and the well laid macadam gave way to the soft sandy ruts for which this section is famed. Rochester, the first control, was reached about 3 o'clock Thursday morning, nearly every contestant going through on time.

However, before the White mountain control was reached, several cars had met with trouble, necessitating penalizations. Hilliard's Lancia had carburetter trouble owing to dirt in the gasoline; Frank Wentworth's Overland had lost time in adjustments, as had Light's Chalmers-Detroit. The Corbin driven by Goss had trouble with its steering gear on the way to Rochester, and Mrs. Stearns (the only woman driver in the contest), who pluckily drove her Overland runabout, suffered from injury to a gasolene feed pipe near the same spot, while George Canterbury was obliged to withdraw his Stevens, when the fuel tank punctured. Harry Knights failed to take on sufficient fuel before tackling the mountains and when his Pierce stalled, it cost him two points.

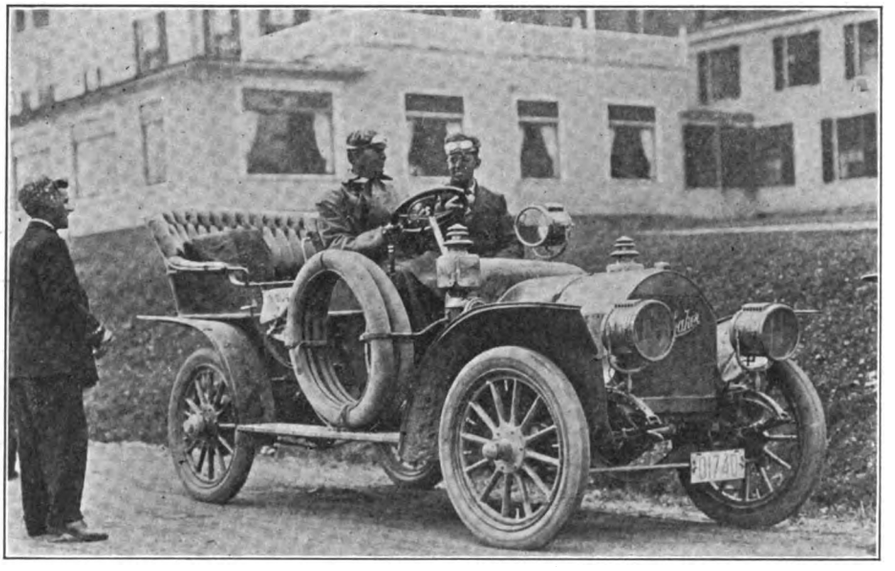


DAN CARRIS, FRANKLIN, PERFECT SCORE

While the contestants were a pretty hard looking half-frozen crowd when the first leg of the run finished at Bretton Woods about 8 a. m., Thursday, they were for the most part in fairly good spirits. All were covered from head to foot with dust and grime and when some of the drivers facetiously inquired for the manicure lady that person

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discreetly retired from business for the time being. It was generally agreed that the trip thus far had been a success in spite of the adverse conditions encountered. A rest of one hour had been scheduled, before beginning the return trip, but as the contestants desired a little more time to stretch themselves and thaw out, the committee extended the rest period to 1½ hours. Then Arthur Knights set out with the confetti car and blazed the trail back to Boston.



W. G. JONES, STUDEBAKER, PERFECT SCORE

Oliver Light was first to sample trouble on the return, when he failed to get his car away from the control and lost 82 points in addition to his previous penalization. The Rambler driven by E. W. Williams had a point chalked against it when its intake pipe got choked with dust and stalled the motor for 20 seconds.

Concord, N. H., was the first control on the return journey, and the run to this place was anything but joyous, the worst spot being the climb over Mt. Agassiz. The Buick touring car entry in charge of Lacaine, mixed things up with a fine young colt while going through Plymouth, N. H. The colt got so gay and frisky that it climbed into the car and forced it into a ditch, putting it completely out of commission. It seems that the animal was being trained by its owner to get accustomed to motor cars and unluckily for the driver, the beast was a little too eager in the pursuit of his education.

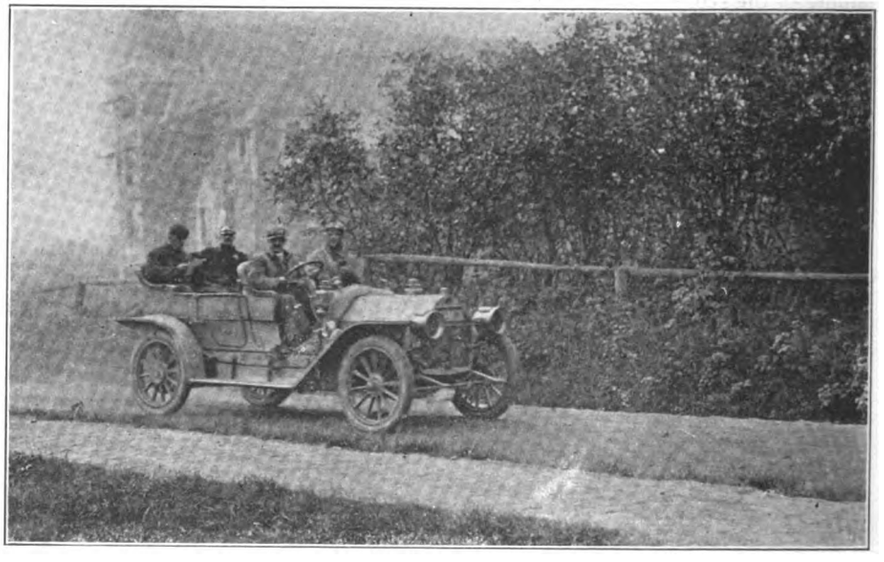
S. F. Goss pulled his Corbin into Concord 6 minutes late, which added to the time lost in tinkering with the steering gear and the 1½ minutes his engine stalled, cost him a penalty of 25 points. Hilliard had extremely hard luck with the Lancia he was piloting. He spent nearly an hour trying to get his carburetter working properly after dirt had put it out of commission and when he finally got running again, he was 16 minutes late at the control and lost a total of 74 points. The Cadillac handled, by A. T. Fuller, pulled into Boston 21 minutes late. Its motor had ceased running for less than a minute, which caused him a total fine of 22 marks.

The balance of the penalized cars did not finish at all. Canterbury was unable to make a repair on his tank and get into the running again, and Frank Wentworth, who got as far as Cambridge with an unbroken score, ran his Overland into a ditch and snapped off a wheel. The two other Overland entries were in the same hard luck. L. Dore had a reluctant carburetter and Mrs. Stearns, after losing 27 points for work on a gasolene feed, stalling the motor 2 minutes and reporting 13 minutes late at Rochester, gave up and did not return to Boston. Lacaine, who got as far as Bretton Woods with a clean score for his Buick, was obliged to quit, as did A. H. Waitt, the other Buick driver, who was forced into a ditch by the colt.

When the run proper terminated, the committee decided to begin the run-off on Friday, September 25, at 10 p. m., starting at Boston and retracing the route. Of the nine perfect score cars, seven started on the second round trip. These were Wing's Marmon, Fosdick's Lancia, Carris's Franklin, Jones's Studebaker, the two Shawmuts of Church and Ayer, and F. Snyder's Oldsmobile. Fred Pratt's Reo and J. Coakley's Buick, both runabouts, did not attempt to fight it out with the rest.

The seven drivers were not literally overcome with joy at the prospect of the long, tedious task confronting them, when their cars were unlocked at the garage. Bretton Woods, which had to be reached in 14 hours, was to be the only control on the round trip until Boston was reached again and only one hour was provided for luncheon and rest at this point. This was also the only time that the engine could be stopped.

The same horrible weather, the same ruts and bumps greeted the pilots on this second circuit, but the test only sufficed to reduce the number to six, while it reduced the number of perfect score cars to four. These were the Marmon, Studebaker, Shawmut and Franklin. Fosdick lost one point when his Lancia skidded into a ditch near Bretton Woods and a limited supply of gasolene caused the engine to stall for 20 seconds when tipped at an angle. Ayer, in the Shawmut touring car lost 38 minutes on the run back from Bretton Woods, as a result of gettink stuck in deep sand at Boscowen. The Shawmut runabout, however, fared better and remained perfect.



H. CHURCH, SHAWMUT, PERFECT SCORE

On Sunday, the 27th, the weary contest-

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ants had an opportunity to rest, and at 6 a. m. Monday, bright and early, the quartet which still held clean tallies, set out upon their third trial for the winning of the trophy.

The route for this day was to Portland, Me., and return, a distance of 180 miles, for which 10 hours was the allotted time. From Portsmouth, N. H., on the roads were miserable and on this part of the journey Wing's Marmon came to grief. At Wells, Me., 28 miles from Portsmouth, the car went into a ditch and broke a front wheel. This reduced the number of survivors to three: Jones, Church and Carris, making the return control on time. Up to this point these contestants had covered 954 miles.



FRANK WING, MARMON, ONE OF THE LONG STAYERS

Installment No. 4 of the run, on Tuesday, saw the plucky little trio of "perfects" start out on about the hardest run of them all. The route was to Intervale, N. H., via Portland, Me., Poland Springs, Bay of Naples and Fryeburg about 200 miles. From Boston to Portland the roads were good and the drivers had no trouble in reaching the first control at the latter place inside the 8 hours schedule. Leaving Portland though, mud holes, and plenty of them, were encountered, the rain having gotten in some of its effective work. Nevertheless, the three contenders reached the night control in good shape.

Wednesday, the fifth try at determining a winner, like its predecessor, was without success. Each of the trio completed the day's run with scores still intact, the cars stubbornly refusing to break down.

The cars left Intervale at 6 a. m., with Boston as a destination, going via Bretton Woods. The committee in charge of the run was non-plussed when it learned Wednesday evening that all three scores were still perfect. At a late hour, however, it was practically decided to make the three survivors keep plugging along and fight the affair out in the same weary way.

CLIMBFEST IN THE BERKSHIRES

Rosenblum, Carey and Hunt Capture the Honors on Snake Hill—Mason and Gustafson Win Motorcycle Events.

That main artery of the Berkshires, the Pittsfield-Lenox State road, was closed for three hours on Saturday last, September 26, when the Berkshire Automobile Club held its climb up Snake Hill near Pittsfield, Mass. The course, which embraced three "hairpin turns" and covered a stretch of 1⅕ miles, was none too safe for such a contest and only twelve contestants could be rounded up to enter cars in the programmed events.

The curtain raiser was called a "free-for-all, restricted, however, to cars costing between $2,000 and $3,500. Phillip Rosenblum of St. Augustine, Fla., captured this, when he sent a Stearns up the incline in 1:47. A 35 horsepower Jackson car, driven by Crotty, made second best time, while Stuart H. Clapp, in a Berkshire, scored third, and L. B. Gragne fourth with a Pope-Hartford.

I. M. Carey, at the wheel of a Pierce Arrow, swung around the turns to best advantage in the $4,000 class, getting up the slope in 2:07. This was a little better time than that of Daniel England, who was second with a Peerless.

The steam class proved to be a case of "On Stanley, on!" Dr. G. P. Hunt, in a steamer of that renowned characteristic, proved a little too good for Erwin H. Kennedy, driving another of the same make, when he whistled up like a peanut organ in the miserably slow time of 2:54.

Two motorcycle events, for one cylinder and two cylinder machines, respectively, were won by Alfred T. Mason (Curtiss) and Charles Gustafson (Indian), the latter making the hill in 1:38, which was a good deal better performance than that of any of the automobiles.

The summaries:

Free-for-all, $2,000 to $3,500—Won by Philip Rosenbaum (Stearns); second, Crotty and Holbrook (Jackson); third, Stuart H. Clapp (Berkshire); fourth, L. B. Bragne (Pope-Hartford). Time, 1:47.

$4,000 Touring Cars—Won by J. M. Carey (Pierce Arrow); second, Daniel England (Peerless). Time, 2:07.

Steam cars—Won by Dr. George P. Hunt, (Stanley); second, Edwin H. Kennedy (Stanley). Time, 2:54.

Motorcycles, one cylinder—Won by Alfred T. Mason (Curtiss); second, J. A. Finkle (R-S); third, L. V. Vine (Triumph); fourth, Edward David (Marsh-Metz). Time, 2:13.

Motorcycles, two cylinders—Won by Charles Gustafson (Indian); second, F. A. Minkler (Indian); third, Oliver R. Hutchinson (Marsh-Metz). Time, 1:38⅕.

Wilmington Holds a "Roadability Run."

Despite the long list of novelties in the arrangement of automobile contests, in which nearly every apparent possibility has long ago been thoroughly explored, if not exhausted, it remained for Wilmongton, Del., to give birth to yet another new sort of contest which was held on Saturday last, September 26th, and billed as a "roadability run." By the rules of the affair contestants were to drive over a known course from Wilmington to Coatsville, Pa., and return, a distance of 70 miles, following a blind time schedule which was left entirely to the individual imagination of each of the drivers. He who succeeded in approaching nearest to the secret schedule established by the judges prior to the start of the race, was to be adjudged the winner—quite independent of the performance of his car in other respects.

This peculiar honor was accorded to William T. Hammond, who drove his own 20 horsepower Mitchell runabout. He crossed the finish line 4 hours 38 minutes after starting. This was within 8 minutes of the secret official schedule time of 4 hours 30 minutes.

Second prize went to Charles C. Kurz, driving a Franklin, who was one minute behind the winner, and third honors were won by William Stanier with a Franklin runabout, who was 11 minutes off schedule, and three minutes behind the winner. All but two of the two dozen entrants finished in good shape with "perfect scores," save for their sealed time penalizations.

Ryan Speediest up "Old Baldy."

For the third time, Harmon D. Ryan, driving a White steamer, won the annual 100 miles race for the Fenner trophy, from Los Angeles to Mt. Baldy, Cal., on September 20. The other contestant in the event, a Kisselkar, dricen by Latham, was beaten by 39 minutes, Ryan's time being 3 hours 34 minutes.

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RIDE RINGS AROUND COMPETITORS

Drach and Leiser Win Milwaukee 24-Hours Race by Nearly 200 Miles—Two Fence Smashing Incidents.

Duplicating their achievement of last year, a team composed of Bob Drach and Fred Leiser, driving a Locomobile, entered by Dr. J. F. Schreiber, won the Milwaukee Automobile Club's 24 hours race at State Fair park, Milwaukee, on Friday and Saturday, September 25 and 26. They covered 992¾ miles in the allotted time, beating the nearest competitor, R. B. Mader (Mitchell) by nearly 200 miles, and improving their old mark for this track by a good margin. While the total distance covered was more than 100 miles short of the American record, it sets up a record for the Milwaukee track that will doubtless stand for some time, for this course is not an ideal one or as smooth as might be desired for such contests. After a few hours the dirt surface was completely worn from the track and the balance of the contest was run over what had become a ragged, rocky path.

R. Bader scored second place with his Mitchell, covering 808 miles and the Condon-Gesskins team in the White steamer, was third with 712 miles, after having given Bader a hot duel up to the 16th hour. The Midland driven by J. E. Miller and F. Roessler, was fourth with 693 miles; Heber-Odenbrett, the Buick team, fifth, 519 miles; and the Frellson-Eierman combination sixth with the Jackson entry, dropping out in the 17th hour at 350 miles. The Petrel with Schwader-Wait up, ran only 96 miles, and Rentner's Maxwell was retired by a mishap after covering 38 laps. Drach and Leiser kept the Locomobile at the head of the procession practically the entire race, taking the lead from the Mitchell in the second hour and holding it thereafter. The race was started by Mayor Rose at 4 o'clock Friday afternoon and the sensational and melodramatic features of the contest began almost immediately. Before the first hour was up Al Rentner, driving a Maxwell, sent his car through a fence, bruising himself slightly and damaging the car considerably—also the fence. There was no hope of making a repair and the car was withdrawn.

From the outset, it was quite evident that the Locomibile, Mitchell and White were going to outspeed the rest of the field and would finish in one-two-three order, barring accident. Mader's Mitchell held second place between the second and sixth hours, when unfortunately a pin lost from the magneto caused it to stop more than an hour for adjustment, giving second place to Condon's White. It was not until the 16th hour that Mader regained second place; the White having had trouble with its water tanks. From that time on, Mader held his position safely. Miller and Roessler, in the Midland, held fourth position throughout, while the Petrel, in charge of Schwader, withdrew after running six laps. Bates and Odenbrett had cylinder trouble with their Buick and lost more than six hours Saturday in trying to get the motor to run.

During the sixteenth hour, a second smashup occurred. Rudolph Eierman, at the wheel of the Jackson car, banged into the fence near the quarter-mile post with a loud crash. Fortunately neither Eierman nor Bucler, his mechanician, was seriously injured. The car bent its front axle beyond repair and was forced to withdraw. Eierman declares that he was blinded by a cloud of dust, which fooled him as he was rounding the turn.

Indeed, dust bothered all of the drivers terribly. Bob Drach, who piloted the winning car, much of the time had his eyes inflamed so badly that he required the services of an eye specialist. On Saturday he returned to the wheel and gamely finished the race with one eye bandaged.

In addition to winning, the Locomobile had the distinction of scoring the greatest number of miles in one hour. In the 11th hour of the contest, Drach covered 50 miles, a really remarkable performance considering the ruts and dust on the track. The car went through without the least trouble other than tires.

Previous to the long race on Friday afternoon, a few short events were run off. In these, Harry Nelson, in a Pope-Hartford, gathered most of the laurels, winning four races. Nelson beat John Heber in a Buick (the only other competitor) by more than a mile in the ten miles race for the Augie Jones cup, and in the five miles handicap, in which the Buick received a flying start of half a mile, the Pope-Hartford again outclassed the smaller car, catching it in the fourth mile.

Milbrath, at the wheel of a Peerless, won the "Judge Neelen" five miles event, which was "open only to those who have come under Judge Neelen's supervision." In so doing he outran a field of six cars. A. C. Brenckle, in a car known as the "Red Devil"—a new name for a motor car—also faced the starter in this event.

C. H. Neil, in a 90 horsepower six-cylinder Stearns, and Harry Nelson, at the stem of a four-cylinder car of the same make, gave an exhibition five miles race that was a "thriller." While hitting a mile-a-minute gait, the "six" blew up a tire with a loud report, taking a bad skid. It was undamaged, however. Nelson's four cylinder car finished in 6:18.

The summary of the 24 hours race is given in the accompanying table.

SUMMARY OF MILWAUKEE 24-HOURS RACE, BY HOURS

	Drivers and Car.	1	2	3	4	5	6	7	8	9	10	11	12
1	Drach-Leiser, Locomobile	41	87	129	167	212	253	291	333	371	408	458	503
2	R. B. Mader, Mitchell	44	87	117	160	200	200	234	272	308	343	364	405
3	Condon-Gesskins, White steamer	35	78	114	139	178	219	255	296	330	367	406	426
4	Miller-Roessler, Midland	30	57	91	117	127	163	197	229	264	295	330	350
5	Heber-Mortenson, Buick	29	50	70	94	111	129	161	191	226	257	288	315
	Frellson-Eierman, Jackson	26	48	76	112	147	168	185	208	208	214	229	253
	Swader-Wait, Petrel	24	59	65	65	85	96	out					
	Al. Rentner, Maxwell	38	out										

	Drivers and Car.	13	14	15	16	17	18	19	20	21	22	23	24
1	Drach-Leiser, Locomobile	542	571	613	658	700	748	783	826	867	911	952	992¾
2	R. B. Mader, Mitchell	436	472	501	535	569	604	638	671	708	739	774	808¾
3	Condon-Gesskins, White steamer	449	477	504	515	538	558	577	615	646	652	680	712
4	Miller-Roessler, Midland	381	411	443	469	491	517	543	570	604	631	662	693½
5	Heber-Mortenson, Buick	355	389	438	440	440	440	444	446	446	446	478	519¾
	Frellson-Eierman, Jackson	262	296	318	350	out							
	Swader-Wait, Petrel												
	Al. Rentner, Maxwell												

Christie Gives Montreal a Thrill.

Walter Christie's journey in search of fame and fortune led him to Montreal, Canada, where, on Saturday and Sunday, September 26 and 27, he distinguished himself by setting up the mark of 1:10, which was gravely announced as breaking the "world's record for one mile on a half-mile track." Other star performers in the cast of the two-day program were Barney Oldfield and Charles Soules. Oldfield's best two-lap turn was exploited in 1:15. Interest in the huge crowd of spectators rose to a fever heat when Soules lowered the figure by a minute. Christie's exhibition following immediately afterward was the immediate cause of riotous enthusiasm.

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WISEMAN NEARLY WHOLE SHOW

Many Thousands See Him Capture Three Events at Tanforan—Free's Comet First in Exciting Novelty Race.

Any one entertaining the slightest doubt as to the Pacific Coast's enthusiasm over motor track racing might have been thoroughly reassured by taking a trip to Tanforan Park, San Francisco, on Sunday, September 20, when the Olympic Club held its second annual track fest. The park was crowded almost to its capacity with 10,000 spectators, occupying the grandstand and field, while by actual count there were no less than 750 cars parked about the rail.

The star of the matinee was F. J. Wiseman, who at the wheel of a Stoddard-Dayton, won the three events in which he was entered, two 10 miles stock car races and a free-for-all. The best time of the day for a mile lap was scored by Fred Dundee, driving a White steamer in a 10 miles bout with C. Kellogg (Peerless), and V. Verilhae (Thomas). Dundee won the event and did one mile lap in 1.02, setting up a new mark for the track in the fully equipped stock touring car class.

In the opening five miles event for members of the Olympic Club, three contestants blinked when the starter's pistol was fired. C. S. Howard began to leave Rosenfeld's Peerless, and Boas's Thomas in his wake, soon after the start. He was never headed.

Cars listing at $2,750 and under participated in the second dash and Wiseman took the event with ease, pushing his Stoddard-Dayton around for 10 miles in 11:11⅗.

Howard again distinguished himself in the $2,500-$3,500 class 10 miles, leading the entire distance.

Bert Dingley fought it out with Wiseman in the next 10 miles race and provided the biggest excitement of the afternoon. It was nip and tuck for three miles, the latter sticking to the Stoddard-Dayton car until in the fourth mile showed Dingley that he was a little too good for him. Wiseman was not passed thereafter and won in 11:25.

F. Free, who was expected to be a "feature" with his Comet car, did not come to life until the novelty race. In this drivers raced on foot a distance of 50 yards to their cars, cranking the motors and then driving one mile. Dundee and Howard jumped away first, but the Comet driver soon cut loose on his orbit, passing the White and eclipsing Howard's Buick at the tape.

Following this event, Fred Dundee redeemed himself in the $3,500 and over class, when he won with the White in 11:16, and also made the 1:02 mark for the mile.

Wiseman triumphed for the third time in the last event on the program—the free-for-all. The Stoddard-Dayton easily disposed of the Comets, driven by Free and Cooper, the White entry meeting with generator trouble. Wiseman's time was 11:21⅘, 10 seconds slower than his first performance for the distance. Two five miles motorcycle events were on the card, W. G. Collins and W. Dreyer, riding Indian machines, being the respective winners. The summaries:

Five miles handicap, for members of the Olympic Club—Won by C. S. Howard, 5 seconds, (Buick); second, Max L. Rosenfeld, scratch, (Peerless). Time, 6:08⅕.

Ten miles, stock cars, listed at $2,750 and under—Won by F. J. Wiseman (Stoddard-Dayton); second, Bert Dingley (Chalmers-Detroit); third, C. S. Howard (Buick). Time, 11:11⅗.

Ten miles, stock cars listed at $1,500 and under—Won by C. S. Howard (Buick); second, T. Hart (Sunset); third, Frank Murray (Buick). Time, 11:10⅗.

Ten miles, stock cars listed at $2,500 to $3,000, inclusive—Won by F. J. Wiseman (Stoddard-Dayton); second, Bert Dingley (Chalmers-Detroit); third, Fred Dundee (White). Time, 11:25.

One mile novelty race, machines on scratch, drivers to go back 100 yards, run to cars and crank them and drive a mile—Won by F. Free (Comet); second, C. S. Howard (Buick). Time, 1:41⅗.

Ten miles, stock cars listed at $3,500 and over—Won by Fred Dundee (White); second, C. Kellogg (Peerless). Time, 11:16.

Ten miles, free-for-all—Won by F. J. Wiseman (Stoddard-Dayton). Time, 11:21⅘.

Five miles motorcycle, free-for-all—Won by W. G. Collins (Indian); second, A. Holsberg (Thor). Time, 5:20⅕.

Five miles motorcycle, single cylinder—Won by W. Dreyer (Indian). Time, 7:09⅕.

It is Now a Morrell-Thompson Row.

"If Robert Lee Morrell, one-time chairman of the A. A. A. racing board, and now chairman of the Automobile Club of America's contest committee, and Jefferson De-Monte Thompson, present chairman of the American Automobile Association's racing board, would stand aside and were eliminated from consideration, all trouble between the two organizations would disappear as if by magic," is the opinion expressed by one of the men in position to know the what's what of the controversy. "The renewed upheaval," he continued, "is largely a bitter personal affair between those two men and until some one orders or induces them to 'go hence,' I do not believe any very lasting peace is possible. Morrell, who trains with the 'auto editors' and clairvoyants and gives them lots of 'tips,' believes he has 'put it all over' Thompson and Thompson—well, I don't know just what he does think. But both men are stubborn and so anxious to 'do' each other that they don't appear to care what turmoil they create and as both have the time and the money, unless they both are thrown overboard by their respective organizations, they probably will play the part of Kilkenny cats for an indefinite period, and the sport will suffer meantime."

TO INTERPRET THE ARGUMENT

A. C. A. and A. A. A. Committees to Hold Conference—The Brighton Beach Outlaws Profiting by the Tangle.

It transpires that the remarkable agreement whereby the American Automobile Association practically conveyed most of its power over competition affairs to New York's local organization, the Automobile Club of America, never was designed to mean what it says. Men on both sides agree that it was not their intention, as stated by the now famous or infamous definition of an "international race," that all open or free-for-all contests should be made international or to permit any crafty promoter to bunco the public merely by labeling his project "international."

In order to rectify these misunderstandings and to obtain a clear interpretation of the agreement, both organizations are to appoint conference committees, the A. C. A. already having designated W. P. Hamilton, Dave H. Morris, W. G. McAdoo and Robert L. Morrell for the purpose.

Meanwhile, the press agents of the outlaw Motor Racing Association, Inc., are making the most of their opportunities to secure free advertising for their forthcoming 24 hours race. By labeling it "international" and securing an A. C. A. sanction, they claim that the A. A. A. has no jurisdiction over them, with which the A. A. A. does not agree, and which really is of minor importance compared with the fact that practically all of the entrants suspended themselves by competing in the racing corporation's previous outlaw race which was run without regard for either the A. A. A. or A. C. A. As the men have not been reinstated by the A. A. A. they clearly are ineligible to compete, the basic principle of all agreements between all sports-governing organizations being that each shall respect the other's rules and punishments. It would seem, therefore, that if the Automobile Club of America does not uphold the A. C. A. in the present affair, it will violate the ostensible principle for which it originally contended and will indicate that it did not act in good faith in entering into the agreement.

Outlaws to Drive at Brighton Beach.

Unless the American Automobile Association is unwontedly successful in reinforcing its barrier of disqualification against them, practically all the drivers who were recently placed under the ban as a result of their participation in the outlaw 24 hours race of the Motor Racing Association, will again be seen under similar circumstances in the second twice-around-the-clock contest under the same management on Friday and Saturday, October 2 and 3, at the Brighton Beach track. To date, 14 cars have been entered, 11 of which are of American manufacture.

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"13" MAKES ONLY PERFECT SCORE

Hargrave Wins Kansas City Run—Eight Days' Battle with Rain and Mud—Farmer Gathers Rich Graft.

One perfect score, eighteen with scores and three without, tells in brief the story of the eight days' endurance run of the Kansas City Automobile Club, which was brought to a close on Saturday last, 26th inst., when 21 tired drivers drew their cars up along Grand Avenue, Kansas City, and patiently waited while the technical committee minutely examined engines, transmissions, axles and whatnot in an effort to prove that nothing had been left undone to knock the underpinning from perfect scores. Fortunately for the future peace of mind of the technical committee it did not have many technical penalizations to mete out, as there was only one perfect score before it got to work, and there still remained one perfect score when the committee finished its labors.

Harry Hargraves' Corbin was the perfect score winner, its nearest competitor being E. J. Anderson's Rambler, penalized 6 points. Several attempts were made to dislodge Hargrave from his position, as the entrants of cars that finished with only a few points against them discovered a bent axle on Fletcher Cowherd's Corbin, which Hargrave drove. After a round-the-block demonstration that that affliction was not sufficient to prevent the machine from undertaking another long tour, however, the committee was satisfied that no penalty was necessary.

It would not be stretching the truth to say that it is doubtful if any endurance run has ever been held that provided a more racking strain on cars and drivers than the one promoted by the Kansas City Automobile Club. Surely it was the hardest ever held over that part of the map. Eight days of it, totaling more than 900 miles, through rain, over hills, and a great part of the distance over the un-auto-explored roads of Oklahoma was unmistakably an endurance test in every sense of the word.

As described in last week's Motor World 31 cars left Kansas City on September 19th, and before the first day's run ended six had dropped from the perfect score division. The second day's run from Emporia to Wellington resulted in a loss of points for three more and the absolute elimination of two cars. But the following day, when the rain came, and when the cars had to plow through quicksand-bottomed lakes, that was the time when real men wept tears of anguish when they could not reach the controls on time. Ten perfect scores were left at the ending of the third day, when the cars got to Enid.

More mud was encountered in the fourth day's run from Enid to Oklahoma City on the 22d inst., and three cars fell by the wayside before they reached the night control. The luncheon station was at El Reno and one perfect score went down before that place was reached. J. F. Moriarity's Stevens-Duryea was the victim. Moriarity rolled up to the control two hours ahead of time, but just before he reached the line his engine stopped for want of gasolene. Realizing that no engine will run without gasolene to help it along the driver rushed into a grovery store, grabbed a quart measure, filled it before the astonished clerk could recover from his surprise, and hastened back to his car. It was quick work, but it cost four precious minutes. The cars that finished at Oklahoma without marks against them were the Chalmers-Detroit, Corbin, Moon, Ford, Rambler and two of the Maxwells.

Rough roads and mudholes were the features of the trip from Oklahoma City to Guthrie on Wednesday, 2d inst., and they chased the Moon car from the head of the class away down to the bottom. The next day brought one of the Maxwells down as well as the Ford.

When the cars checked in at Oloa, Kan., on Friday night, the 25th, there was only one driver who grinned broadly. He was Hargrave, for up to that point his car had not received a penalization, and, moreover, his was the only one that had not. A mud hole in the Flint hills was responsible for the dropping of Carl Simmons's Maxwell. The car ran over the hills nicely and coasted down into a mud hole that looked innocent until the party got into it. It proved to be of greater depth than Simmons estimated and required nearly two hours herculean work to extricate it. E. J. Anderson's Rambler fell from grace when the official inspector got after it at the finish of the day's run. The car survived the hard schedule, but at the expense of a broken fender bolt and a lost hub cap.

Driver D. B. Huss, of the little Brush runabout, was a victim of Good Samaritanism. After going out of his way to secure help for a disabled car containing a woman and child, he lost the course and arrived at the night control three hours late, and after the checkers had abandoned the post. For this he was later disqualified, though finishing on schedule with the others next day.

The little Chalmers-Detroit, which, up to that time had enjoyed company with the perfect scorers, also had a peck of trouble on the next to the last day. A tire gave way and while the occupants were looking at it another followed. That accounts for another failure to come in with a perfect score. Points were also lost by the Packard and the Stevens-Duryea when "hog backs" got in the way and the cars had to be dug out. A "hog back" it appears, is a grown up waterbreak, and like corn and girls and other nice things, they attain some size in Kansas.

Only one incident marred the otherwise perfect day, except for the mudholes and "razorbacks." That was the enterprising holdup of a Rock (Kan.) farmer, who said at the time that his name was Smith, but later changed it to Erickson. When the pilot car got to a point two miles from Rock, the bridge over a small creek was not in its accustomed place. The committeemen were wondering what to do when a young man rode up and offered to let them go through a field he said he **owned,** but reckoned it ought to be worth something to him. W. G. Coumbe entered into a verbal agreement with the young man to stay at the gate and direct the other cars properly, in consideration of which service Mr. Coumbe gave him $5.

Presently Moriarity's car came along.

"You cannot go through my field unless you pay me $2," said the young man left at the gate by the committee. "I've got a lot of choice cattle in there and they'll scare so much that it will bean a big loss to me." Moriarity asked the man his name and then insisted that "Smith" give areceipt for the insisted that "Smith" give a receipt for the $2.

The young man hesitated and then admitted that his name was not "Smith," but John Erickson, and he added:

"I own most of the land around here."

"Don't wonder at it," grumbled Moriarity as he tucked the receipt into his pocket and drove off.

Later reports at the night control showed that Erickson collected $51 from 22 contesting cars, one non-contestant and the pilot car.

The final day's run into Kansas City on Saturday was easy and enjoyable. Aching backs ached less as the goal drew nearer and there was not a driver who was not glad to see the last control. It was a success, they all agreed, but hoped next year's run would last only five days. Mrs. Kirkland's driving was a revelation to the seasoned man-veterans, for she finished smiling and well up with the leaders, though penalized.

An interesting point is that Hargrave's winning Corbin carried number "13" through the run. An unlucky number gets the only perfect score!

The list of the 21 contestants who completed the long and strenuous run, with the records made, is as follows:

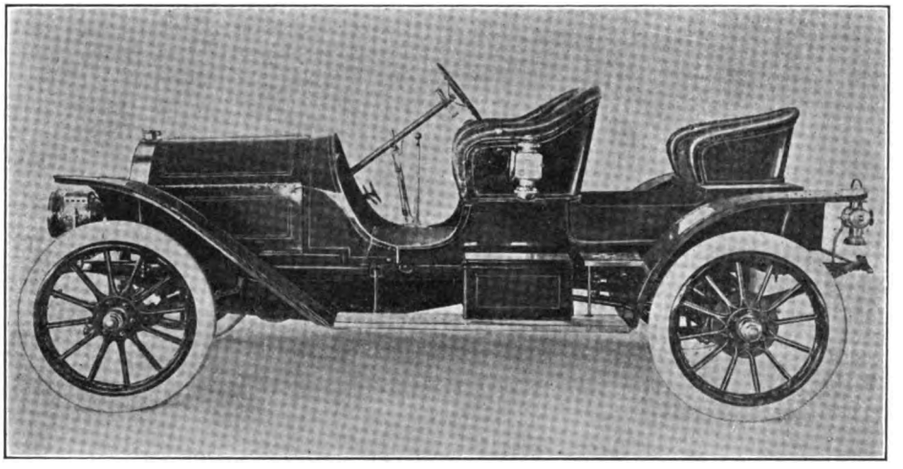
Harry Hargrave, Corbin	1,000
E. J. Anderson, Rambler	994
F. L. Woodward, Knox	989
R. C. Greenlease, Cadillac	980
L. A. Robertson, Franklin	975
J. F. Moriarity, Stevens-Duryea	960
Mrs. Kirkland, Overland	952
Dudley Munger, Peerless	935
W. S. Hathaway, Maxwell	932
J. B. Porter, Chalmers-Detroit	921
C. M. Norris, Ford	919
E. P. Moriarity, Chalmers-Detroit	896
E. P. Moriarity, Packard	886
W. L. Walls, Studebaker	868
W. S. Hathaway, Maxwell	842
E. H. Jones, Maxwell	723
C. Muehlebach, Pope-Hartford	667
C. J. Simmons, Maxwell	479
C. B. Merrill, Moon	000
D. B. Huss, Brush	000
H. F. Worth, Buick	000

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STODDARD-DAYTON OPTIONS BROAD

Models for 1909 Include Variety of Sizes, Uniform in Design and Construction—Noteworthy Changes in Detail.

In a remarkably pleasing application of the principle that the man who buys a car of modest price or small capacity does not by that token relinquish his requirement of all that current practice has deemed best in



STODDARD-DAYTON "9 H" 25 HORSEPOWER

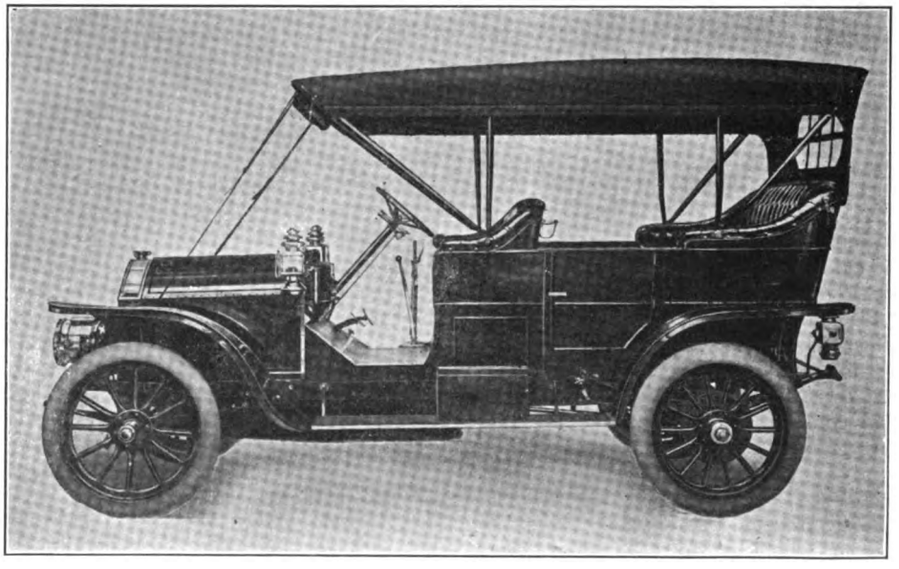
construction, the Dayton Motor Car Co. is offering as its 1909 line, no less than three different sizes of the same machine. That is to say, while three different types and powers of car are listed, their characteristics are absolutely uniform from the design and construction of the power plants to the outline of the bodies; the differences between them are only those of price, power and capacity. They also share the common benefit of being constructed entirely at the Dayton (Ohio) factory of the company where every component except wheels, carburetters and ignition apparatus are produced by approved and economical methods.

Beginning with the prefix "9," as indicating the year of production, the list includes models "F," "A" and "H." In addition, and distinguished from the "A" car by the purely runabout characteristics of wheel base and engine position with their attendant details, is model "C." Model "K" is the largest and is a modified form of the present Model "G," brought into the newly standardized form to correspond with the other machines of the line. The engine sizes range from 45 down to 25 horsepower, and the seating capacities vary according to the types of body employed. These are largely optional with the purchaser and comprise an unusually comprehensive offering to choose from. There are the plain, straight line bodies seating four, and in the larger models seven passengers, the "baby tonneau" types with low-backed rear seats of uniform delineation with the front seats, and roadster models with a variety of rumble accommodations. Thus the owner may select a plain box seat with artillery backs for two passengers, individual bucket seats, or the single seat which is more commonly seen in service. In any case, the interchangeable design of all the bodies makes it possible for any desired arrangement to be supplied on requisition, while the owner by the same token is enabled to alter the arrangement of his car at any time he may desire.

The mechanical construction of the cars remains the same in general layout as heretofore. The valve-in-the-head motor, with single rocker arm for actuating both valves is retained; the selective type change gear, shaft drive, and arrangement of control mechanism are unchanged in principle. A number of rather significant alterations in detail have been made, however, which are worthy of note.

Thus in the motor, the former copper jackets have been replaced with cast jackets, the cylinders now being formed in pairs, with large end plates for each twin casting, affording ample room for cleaning and finishing operations. The arrangement of the two-to-one and auxiliary driving gears has been changed somewhat, it now being possible to remove the gear case cover without disturbing the fan drive. The motor lubricating system has been improved also and now comprises a thoroughly effective and automatic method of drenching all bearing surfaces with a constant supply of oil. The lower part of the crank case is divided into two longitudinal compartments, the lower forming an oil-well, into which all overflow from the motor is drained through a suitable filter. From this point the supply is raised by a positive plunger pump driven from the cam shaft to a distributing manifold, whence it is taken by pipe leads to the feeding points. The arrangement of ducts and oil ways is such that by the assistance of centrifugal and rotary action the lubricant is carried to every inch of bearing surface in the motor. A noteworthy instance of this is the method taken of supplying the pillar on which the distributing mechanism for the ignition system is mounted. For this, a spiral groove in the driving shaft is employed to raise the oil to the commutator proper, while provision is made for the overflow to be returned to the case through an independent channel. In the case of the smaller motors the method of mounting in the chassis by means of channel steel cross arms, instead of integrally cast members, also is a creditable detail.

In the arrangement of the transmission, few changes have been made except in the method of actuating the change gear, in which the striking lever, instead of being mounted on the inside of the frame sill, as formerly, is now carried outside the frame in the more conventional position, a strengthening bracket-housing serving to protect and reinforce the attachment of the levers and rocker shafts. The transmission bearings also are made longer.



STODDARD-DAYTON "9 F" 45 HORSEPOWER

In the chassis construction, the frame

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sills have been strengthened very materially, and the steering rod has been brought out to the right knuckle over instead of under the axle. In this way it is removed from the troublesome danger zone it formerly occupied. The wheels and brake drums have been increased in strength, while the side strut rods are now hinged to the frame instead of being given the former ball and socket connection.

In body construction, a metal sheathing has taken the place of the fabric covering for the wood laminations hitherto employed, making a more lasting and climate proof surface to receive the finish. The option offered in bodies, also is extended to the equipment, as for instance, in the case of the ignition system, where a choice is offered of four different types of magneto—U. & H., Bosch, Witherbee, and Splitdorf. In this way, while the machines themselves are absolutely uniform and standard in construction, regardles of size, the purchaser has the benefit of an unusually wide option in finish and fitting, which enables him to give as much scope to individual taste as may be desired.

Pet Cocks in Rear Axle Housings.

Thoughtful makers are accustomed to fitting pet cocks in the housings of rear axles of the live type in order to enable the operator to determine correctly the proper level at which the oil should stand in the bath. Where this has not been done originally, the owner may fit one for himself at slight expense. Too much oil in the casing involves a drenching of the wheels with the overflow. The evils of the opposite extreme are too obvious to need mention specifically. The happy medium, however, is sometimes difficult to attain without some such guide.

Caution in Refilling the Radiator.

Ordinarily there is no danger in refilling with cold water the radiator of a machine which has been running for some little time. In case the water level in the radiator is sufficiently low so that the tops of the cylinders are uncovered, however, it should be seen to that the motor is well cooled off before the water supply is replenished. Otherwise there is danger of cracking the cylinders at the exposed surface, owing to the contraction due to the rapid cooling effect of the sudden application of water at low temperature.

Putting New Rings in Worn Cylinders.

When putting new piston rings into a cylinder which is worn larger at the top than at the bottom, they should have very long halved or tongued ends, fitting rather closely together and loose enough to work perfectly free in the grooves. Unless these precautions are taken, there may be a tendency either to clog in the lower portion of the bore or to spring apart in the upper portion, thus causing undue leakage of gas.

NEW ELMORE FEATURES FOR 1909

Two Models to be Added to the Line—Improvements in Power Plant and Steering System.

With the rapid approach of the fall and winter season with its accompaniment of show dates, the specifications of new and forthcoming models appear with almost bewildering frequency. Notable among these are some of the details of the new Elmore models "44" and "33" which became known only recently. As a matter of course, the distinguishing feature of these machines—the two-cycle motor—will be continued, the three and four cylinder types being employed as in the two current models. In other respects the more important specifications will remain unaltered. Improvements of a more or less significant character have been made, however, which are worthy of note.

Thus in the motors, the use of the offset method of crank mounting makes its appearance, while the radiator size has been slightly increased, incidentally improving the general appearance of the machines, since it involves a bonnet some 1½ inches higher than before. As the frame has been lowered 2 inches, a new form of front axle has been adopted, while the addition of a new steering column also serves to alter the appearance of the machine somewhat. The motor controlling levers are arranged as heretofore, but the steering gear is changed to permit a wider steering lock than before, and to improve the control of the vehicle in the matter of readiness of response.

By altering the position of the actuating spring and placing it back of the cone, the design of the master clutch has been considerably improved. Similarly the design of the rear spring mounting has been improved by increasing the number of spring leaves in service, and reducing the thickness of the members, thus producing a more yielding and responsive mounting. At the same time the distinctiveness of the three-quarter platform system is retained. The tire sizes on the model "33" have been increased from those employed on the corresponding model current to 33 by 4 inches, the ½-inch increase in small diameter doing a great deal in the way of relieving the springs of the more arduous classes of work which it is called upon to perform.

Misleading Carburetter Symptoms.

A fruitful source of puzzling difficulty with many types of carburetter is the automatic intake valve employed to establish the proper dilution of the mixture at various speeds. When this is found to be working incorrectly the most natural inference is that the spring is improperly adjusted. That such is not always the case, but that a far simpler if less apparent difficulty may be at the root of the trouble, was the experience of a foreign motorist of no little self-assumed authority on such matters.

A couple of months after he had begun to drive his present car, as he relates, he found that it was developing an altogether too high rate of fuel consumption. The odor of the exhaust was offensive, and there was an occasional difficulty in starting.

"As I had been experimenting with lubricating oil," he says, "I saddled a brand of the latter with the cause of the foul exhaust. But that evidently did not explain everything, for on reverting to the oil which had previously given good results, there was only a trifling improvement. Deeper investigation failed to disclose anything beyond the evident fact that the mixture was too rich. The car is fitted with one of the best types of automatic air valve that I have seen, but, as we all know, automaticity in these matters is dependent on correct setting. I came to the concluson that the automatic valve was not responding to the call of the engine at low speeds, at least, because the controlling spring was too strong for the engine when pulling slowly. The diagnosis was correct, and substituting a weaker spring for the one in use, the trouble disappeared. . . . .

"The other day I was investigating a somewhat obscure effect, which showed that the two rear cylinders were missing when the engine was throttled down to the lowest point. When I came to dismount the vertical seating for the spring. I found that the plunger rod had no effect on it. It had jammed—which incidentally explained trouble I had had in starting up from cold, that had begun coincidentally with the spring readjustment referred to."

Clearing a Choked Carburetter Jet.

As has frequently been suggested, it is possible occasionally to remove the clogging obstacle from a choked carburetter jet merely by racing the engine. When the clogging is sufficient to cause the stoppage of the motor, however, this remedy appears to be out of the question. By injecting a few drops of gasolene into the cylinders and cranking, immediately opening the throttle to its full amount, tremendous suction is developed for the one or two cycles which may be secured in this way. One or two attempts made in this way often prove sufficient to pull the obstruction through the jet, thus clearing it without necessitating any dismounting of parts or loss of time.

When equipping a car with shock absorbers there is small danger of going astray if the maker's instructions are followed to the letter. In the subsequent readjustments of the equipment, however, there is room for considerable difficulty to be encountered unless great pains are taken to secure uniform adjustment of the braking action on the four corners of the chassis.

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ELIMINATES STARTING DIFFICULTY

Novel Features in New Model of the Unterberg & Helme Magneto—How Uniform Current is Secured.

Because it entirely eliminates that ancient and sometimes justifiable objection to the use of such devices—the starting difficulty—the Unterberg & Helme magneto, for which J. S. Bretz Co., New York City, are the American importers, is entitled to special consideration. Although this instrument

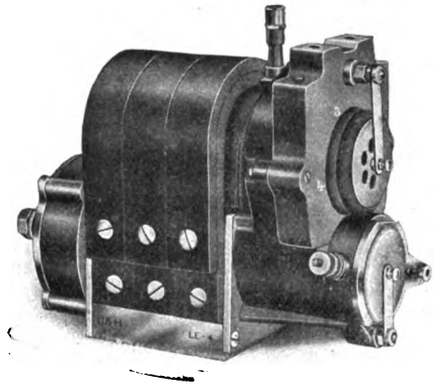


Fig. 1

has been on the American market for some little time and is already favorably known, a new model has just been brought over which embodies novelties in the arrangement of the interrupter and condenser as well as in minor details. Like the other types it possesses the remarkable feature of yielding a uniform current regardless of the rate of rotation of the armature between the slowest possible speed and the normal of ordinary service. Hence the starting

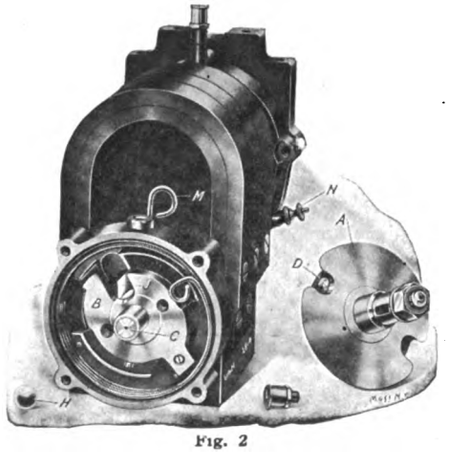


Fig. 2

spark is as powerful as that developed at normal speed and not only is the labor of cranking alleviated by this means, but any uncertainties due to imperfect gassification of the charges at low crank shaft speeds are done away with by virtue of the high rate of inflammation secured.

As will be seen from Fig. 1, there is little in the external appearance of the device to indicate its unusual features. It is of the pure high-tension type with both primary and secondary windings on the armature so that it is wholly self-contained. The driving and distributing mechanisms are disposed at opposite ends of the armature so that the electrical and mechanical connections are separated as widely as possible. The armature is mounted on ball bearings so that only semi-occasional oiling is required, and other provisions of like purpose serve to reduce the amount of necessary attention to a minimum.

The manner in which the strong spark is developed at low speeds is already more or less familiar as employed in the older types. The starting mechanism itself is shown in Fig. 2, which is an end view taken with the steel driving disc, A, removed from the armature shaft. The reverse of the disc also is shown in Fig. 3, as well as the cover plate, L, and a bronze disc, B, which is affixed to the armature shaft. A coil spring, one end of which is secured to B, and the other to a pin on disc, A, forms the permanent driving connection between the two. A pair of cam-shaped surfaces, F, on B, are held by the spring against two corresponding stops, G. Consequently the spring compels the disc, B, and so the armature to follow A when the latter is driven. At the same time the steel ball, H, which is carried loosely in the slot, I, projects behind B, and is pressed forward at a single point in each revolution by contact with a third

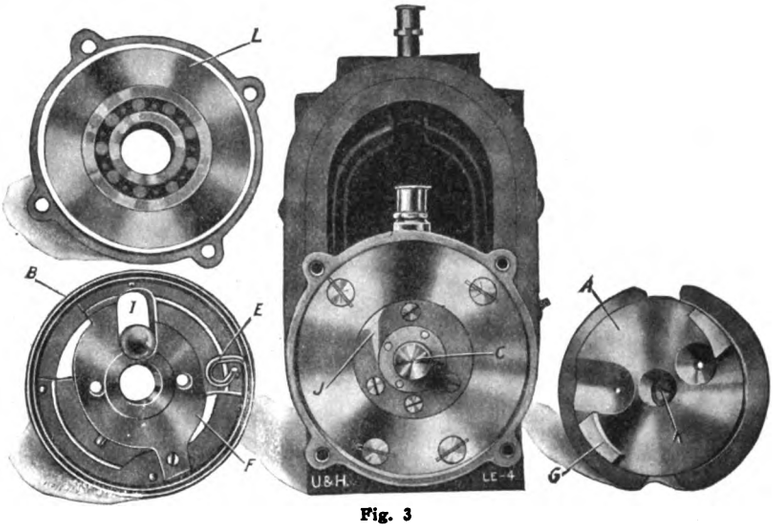


Fig. 3

cam surface, J, coming against the flat face of the disc, A. The cam, J, being stationary with the magneto frame, the movement of the disc, B, is at once arrested, while A, continues to turn, the ball rolling around in its slot and pressing against A. By this means the spring, E, is wound up until a radial depression in disc A, comes opposite the ball, when the latter is released by slipping into the depression, thereby escaping the cam, J, momentarily and releasing the armature. The armature is then driven forward by the spring tension, and at a rate entirely proportional to the strength of the spring. Its speed is thus greater than that

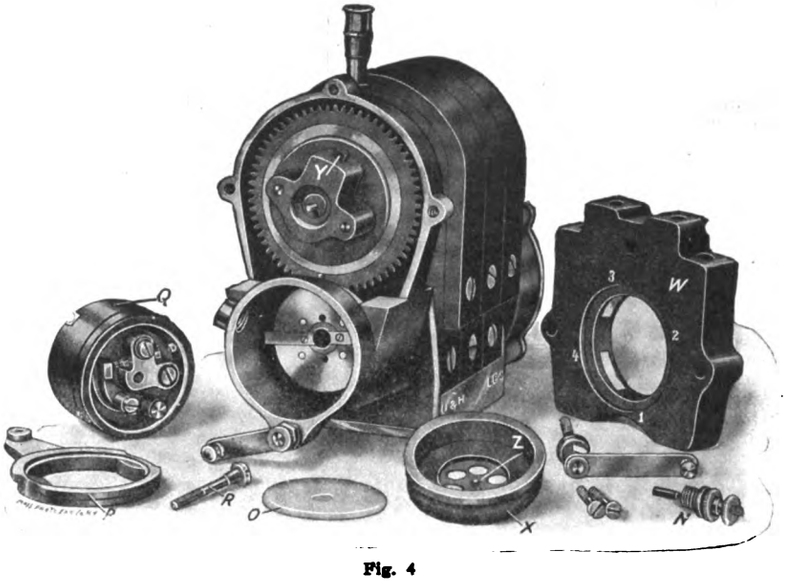


Fig. 4

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of the driving disc by an amount which is determined by the designer. As soon as surfaces F and G are re-engaged, the armature is again arrested until released in the manner described.

This arrangement serves to procure a relatively high rate of rotation for the armature during the zone of maximum current generation absolutely independent of the speed of the driving mechanism. At speeds upwards of 60 revolutions per minute, when the momentary acceleration is no longer required, the ball is driven radially outward by centrifugal force coming to rest at the outer end of the slot, I. The driving and driven parts are then locked together and remain so until the speed again falls below the rate of efiective current production. A further point to be observed is that the armature is invariably released at a point to be observed is that the armature is invariably released at a fixed point which is independent of the position given the interrupter by the spark lever.

A dissected view of the electrical end of the magneto is shown in Fig. 4, in which N is the ground connection to the switch; O, the cover plate over the interrupter; P the ring carrying the interrupter cams, and Q the interrupter housing. The latter is held in place by means of the central screw, R. The action of interruption is brought about by contact between a circular fiber contact finger on the end of the interrupter arm and the cam faces on the interior of the ring, P. The contact, although circular, does not revolve, consequently there is no danger of unequal timing through irregular wear. For the same reason the cam surfaces are of hardened steel—the combination of steel to fiber producing no effect on the stationary members.

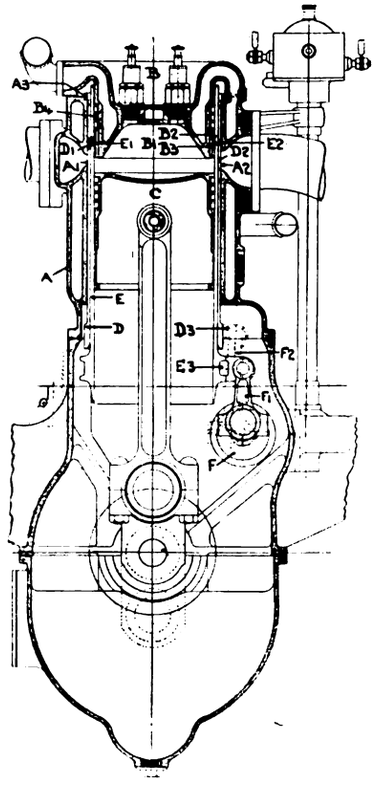
The condenser is enclosed in a ring which is set into the back of the interrupter housing and retained by a threaded disc. The molded insulation of the distributor, shown at W, has four contacts embedded in it, against which the carbon brush, Y, wipes. The former is held in place by three screws. The safety spark gap consists of a metal point, connected to Y, from which the spark jumps to the point Z in the housing, X. A mica window in X permits the spark to be seen without risk of exploding gasolene vapor. A turn of the spring clip seen permits X to be removed, thus permitting exposure of the distributor for the purpose of cleaning.

Another illustration of the care observed in providing for the convenience of the operator is revealed in the method of timing. In Fig. 2, is shown the timing pin, M, by which the armature is located in its proper position for firing. This operation is accomplished in a moment without removing any of the parts of the magneto. The fly wheel is turned until one of the pistons is in its earliest firing position. The armature is located by the pin M, and the magneto is then coupled to the engine in the position thus indicated.

DAIMLER'S "SENSATION" AMERICAN

New Engine Developed from a Chicago Inventor's Device—He Co-operates in Modifying the Design.

Considerable stir is being created in England, and to a less degree on the Continent as well, over the introduction of a modified form of the Silent Knight engine, which first made its appearance in Chicago several years ago, where it later appeared in the car of the same name made by Knight & Kilbourne. As told by the Motor World



two weeks ago, the English Daimler Co. have had in view for a year and more the introduction of a new motor of this general type, although it was not known until recently how closely the Knight patents had been followed. It now appears that the inventor himself has been working in conjunction with the Daimler engineers for many months, and that the resulting modification of his original engine is to be used in the Daimler cars for 1909. Further, it is reported that the Panhard works are already experimenting with the motor and that the makers of the Belgian Minerva car have already taken it up, while representatives of the F. I. A. T. concern, have come from Italy to watch the experiments in France.

Unlike the motor already known in this country, the more recent development is made without the auxiliary exhaust port at the base of the cylinder. Also it is altered in one or two other, though less significant respects. Its construction, which is extremely radical, is shown in the accompanying illustration, the manner in which two sliding, cylindrical valve sleeves have been made to replace the usual poppet valves being perfectly apparent.

In place of the ordinary type of cylinder, a plain casting with independent head is employed, the upper end being closed by a head carrying a piston-like extension, B, which projects slightly into the combustion chamber, forming a pocket around the circumference for the reception of the upper ends of the two sleeves, D and E. These are interposed between the piston and the cylinder wall, being driven from the eccentric shaft, F, which replaces the ordinary cam shaft. Two radial ports are cut in each of the sleeves at proportionate distances from the top, and in such a position that at certain points in the cycle those on either side may register with the wall ports in the cylinder proper, which are used in the distribution of the gases. The actuation of the two sleeves is such that the ordinary operations of the four-stroke cycle may be accomplished as in the regular type of motor in common use.

Among the advantages claimed for the system are, first of all, silence in action, since there are no spring-actuated parts, and no tappets—all the moving parts being in constant, instead of intermittent motion. In addition to this, the valve opening being accomplished by a differential movement of the two sleeves, it is possible to obtain a very quick opening and closing action, which further, is under perfect control. The upper ends of the sleeves sinking into the circular well betwen the cylinder head and the false head which projects from it, form at the point of highest compression and explosion pressures in the cycle, a very tight and restricted combustion chamber. Improved methods of lubrication are thought to have overcome any possible objection which may have existed on the score of engine friction.

The Daimler Co. has in preparation no less than three different models of the engine, at 22, 38 and 48 horsepower, respectively. Tests made with the new models are said to have demonstrated an unusually high development of power for the piston displacement, as well as remarkable smoothness of torque at low speeds and heavy loads.

The Cause of Uneven Brake Wear.

When improperly hardened or when composed of poor grades of metal the cams which are so commonly employed for applying internal expanding brakes are likely to wear unevenly. The same difficulty also occurs sometimes with the shoes of this type of brake. The result in either case is that the braking action is distributed unevenly over the drum and the retarding action is irregular and uncertain. This is an inherent difficulty with this type of brake which is only to be remedied by the exercise of great care in selecting the materials.

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COMMERCIAL VEHICLE PROBLEMS

Electrics for Cities and Gasolene for Country Roads, Says Churchward—Analysis of the Relative Conditions.

In contrasting the relative performances of electric and gasolene driven vehicles, particularly of the commercial variety it is customary to compare their characteristics without regard to the idea that properly they may be constituted to perform totally different classes of service. Thus for obvious reasons the electric stands at a disadvantage as compared with the gasolene machine for work involving long hauls over very hard roads, and simiiarly the smooth action and economical performance of the electric makes it as well if not even better suited for purely city transportation. Alex. Churchward, whose investigations of motor vehicle problems have already been brought to notice more than once in these columns, forecasts an even wider field of usefulness for the electric vehicle than that prescribed by these limits. So soon as the commercial vehicle user shall have awakened to the need of handling the problem of highway transportation on a purely engineering basis, questions of economy are bound to be more carefully considered.

"When comparing the operation of motor driven and horse drawn vehicles, a great deal of prejudice is frequently shown against the former, much of which is well founded, and when we come to analyze the reasons for this prejudice we can hardly blame those who have entertained objections and do make adverse criticisms," remarks Mr. Churchward. "In the early days, and even now in some cases, the purchaser was at the mercy of the glib tongued salesman, whose only aim was to sell the vehicle and pocket his commission, regardless of whether the vehicle was suited to his client's requirements or capable of performing the particular service required. In other words, the salesman promised and all but guaranteed that the vehicle would fill all the requirements of the purchaser. While this purchaser would not buy an electric light or steam plant offhand, but would call in an accredited consulting engineer and have his plans and specifications properly drawn up to suit his requirements, where the purchase of a motor vehicle is contemplated no such process is usually followed, and the most clever and persistent salesman or the lowest price frequently gets the order.

"The evil results of this system, or rather lack of system, are to be seen to-day on our streets, and some time will be required to overcome this prejudice and convince the present large users of the horse-drawn vehicles that a properly selected motor vehicle will be economical, reliable and perform the required service better, quicker and cheaper than their horse-drawn vehicles at present do.

"To-day the leading electrical manufacturing companies will not sell railway motors to a customer unless they know the exact duty of the service on a known road bed. How much more necessary it must therefore be to know the exact conditions of service, where the tractive effort due to road bed alone may vary 1,000 per cent. is obvious.

"Not until this matter is handled in a proper engineering manner will the motor driven vehicle be a genuine commercial success. The day of employing motor driven vehicles, chiefly for advertising purposes, has gone by; the advantages to be gained by the use of such vehicles has been fully demonstrated on a basis of utility and service and the prospective purchaser must and may be shown that there will be a real and tangible saving.

"It must be granted, therefore, that the day will soon come when motor propelled vehicles will be installed and properly selected and then the question at once arises: Which will be the most economical power to use, gasolene or electricity? Each has its own particular field and cannot be ousted by the other—if properly chosen and cared for.

"For cities having well paved streets and not too hilly, and the distance per day to be covered not over 40 miles, the electric delivery wagon will always make a good showing against the gasolene vehicle of the same capacity.

"First. Because of ease of control.

"Second. Rapid acceleration without jerking or straining the mechanism.

"Third. When vehicle is stopped all fuel consumption ceases.

"Fourth. No noise or odor.

"Fifth. Lower maintenance and upkeep on tires due to better and more even acceleration.

Sixth. Lower maintenance of the running gear because of its lower limits of speed.

"Seventh. No jarring or shock when changing speeds.

Eighth. Less cost per net ton mile for fuel, i. e., current against gasolene.

"In England the storage battery companies are now ready to contract to maintain vehicle batteries at so much per mile, and I predict that before long the same state of affairs will exist here. When this does take place the two great items of expense, batteries and tires, will be put on a known basis of so much per mile.

"The expense of charging vehicle batteries from electric light circuits does not cut much figure in cost of operation or cost per ton mile. An electric delivery wagon of standard make will not cost more to operate when charged from city circuits than a similar capacity gasoline vehicle. In other words, the cost of electricity per net ton mile is not more than the cost of gasolene per net ton mile at the present average current prices. The electric vehicle can be kept in any stable or garage in the heart of the city without any extra insurance, while the gasolene vehicle must have special accommodations.

"The maintenance of the battery on the electric vehicle is to-day no more than that of the engine and gear changing device on the gasolene rig. And again, to get low maintenance and maximum economy from a gasolene vehicle it is necessary to employ a higher priced driver than with the simpler electric. The electric motor and controller installed in the modern vehicle has been so far perfected that the maintenance is practically nil.

"Therefore, the comparison at present for city work is between the upkeep of the storage battery against that of the engine, change gears and their accessories, and after all is said and done, results will be found in favor of the storage battery, providing it is properly charged and inspected and the work it is called upon to do is not outside of its proper limitations.

"For suburban service, poor roads and long hauls, the gasolene delivery wagon is superior and will show great economy over both the electric and horse-drawn vehicle, provided it has been properly selected for the work it has to perform. Up to 3½ tons net load the electric is most suited for city work and even to 5 tons where the run is not too long. For suburban work and greater loads the combined gasolene electric will surely compete favorably with the straight gasolene vehicle.

"This is apparent for the following reasons:

"First. Perfect control under any condition.

"Second. No gears to change.

"Third. Impossible to stall engine due to overload or starting too quickly on bad roads. The system is so designed that as heavy road or grades are encountered the torque is automatically increased and speed decreased up to full capacity of engine.

"Fourth. Only one control pedal or lever.

"Fifth. The efficiency of the electric transmission due to its flexibility as high as any form of change gears.

"Sixth. Smooth acceleration from standstill to full speed."

Adjustment for Automobile Lubrication.

In caring for motors which are lubricated by the simple splash method from the crank pit, it should be borne in mind that the entire success of the operation depends upon the adjustment of the oil level within a very limited range. The total variation between the correct amount and either too much or too little probably is not over 5 per cent. of the total quantity. When it is considered that in many machines the crank case capacity is not over 1½ quarts, the need of delicate manipulation in filling is at once apparent. It is chiefly because of this embarrassing feature of the simple system that the more complicated methods of automatic lubrication are justifiable.

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ALL AROUND VIEWS ON GOOD ROADS

Motorists and Grangers Meet Experts in Convention at Atlantic City—Broad Discussion of Highway Problems.

Behind the steering wheel and from the side of the road are entirely different points of view so far as motor cars are concerned. Hence, perhaps, not the least beneficial effect following the New Jersey good roads convention called at Atlantic City, N. J., on Friday and Saturday, 25 and 26th uit., is that the "freeholders" who attended came into friendly contact with many members of the automobile clubs and because of the motor car riding which the automobilists were liberal in providing for them are now greatly modified in their antagonism toward the machines. For the first time, perhaps, some of them have had a view of how matters look to the owner of a car.

Riot and bloodshed at the convention were sidetracked in advance by a truce arranged between the Associated Automobile Clubs of New Jersey, the State Farmers' Grange, and the Boards of Freeholders, to the effect that all subjects relating to speed laws and the like should be ruled out and the meeting confine itself strictly to the actual construction, engineering and financial problems involved in State highway improvement. Although many of those participating in the proceedings were bursting to speak their minds either against the motorists or the constabulary, as the case might be, the screws were clamped down close by the chair in every instance, and peace prevailed.

With long-headed policy, a lot of the automobilists arranged to take to Atlantic City in their machines as many farmer and freeholder delegates as their cars would hold. Not only the saving in railroad fare but the prospective pleasures of the trip inclined to a ready acceptance of such invitations, and the ride opened the eyes of the passengers as to the ease with which an automobile is steered and controlled. They also say that speeds which to the man on the roadside looked reckless, are a slow unfolding of the highway ahead to the motorist. After passing through seven counties and touching widely separated towns in order to pick up delegates, W. C. Crosby, chairman of the convention committee and acting president of the Associated Automobile Clubs of New Jersey, was able to give those in his car a demonstration of how "Jersey justice" is administered, as he was stopped by a constable about 40 miles from Atlantic City and charged with going in excess of 30 miles an hour. Everybody in the car knew the absurdity of the charge, but the justice before whom the case was taken refused even to allow Crosby to plead, and summarily pronounced him guilty. The motorist entered an appeal and continued his trip, letting his passengers draw their own lesson from the incident.

Busy agents for dust preventatives and patent surfaces for highways found plenty of people to work on and to give demonstrations to, as the convention was attended by members of the Associated Automobile Clubs, which isued the first call for it, and by representatives of the New Jersey farmer and freeholder interests, together with county engineers and good roads experts from many places. Governor Fort was ill, and could not come as he had promised to do, but his speech was read by Col. Frederick Gilkyson, State commissioner of public highways. From Washington, representing the Federal Government, A. S. Cushman, director of public roads, attended, and New York State contributed a paper by State Engineer Skene, which was read by George C. Diehl, county engineer of Buffalo.

In addition to booming the scheme for the ocean boulevard, from Cape May to the Atlantic Highlands and New York City, Governor Fort's speech at the opening session pointed out that 1,350 miles of New Jersey road have been built with State aid and 432 without it, and that the problem of maintaining these roads is going to be a big one, inasmuch as it will cost about $300 per mile to keep them in condition after they wear down a little more. The annual expense involved for repairs alone would therefore be about $261,000, he declared, two-thirds of which amount is now paid by the registration fees of automobile owners. He urged the early abolishment of tolls on the few remaining toll roads in the State and suggested that something a little more yielding to horses' feet than macadam be used in future road construction.

During the afternoon session the following addresses were made: "From the Grangers' Viewpoint," by G. W. F. Gaunt, master of the New Jersey State Grange. "From the Road Drivers' Viewpoint," by James M. Beldon, secretary of the Essex County Road Drivers' Association. "Good Roads from the Standpoint of the Dweller Along the Way," by Frank Bergen, Elizabeth. "From the Automobilists' Viewpoint." by J. B. R. Smith, New Jersey Commissioner of Motor Vehicles. "From the Citizens' Standpoint, the Relation of the User of the Highway," by Judge W. H. Spear, Jersey city. Friday night the delegates were entertained by the Atlantic City Automobile Club with a beefsteak dinner at one of the hotels, the "doings" being heralded as "A Night in the Kitchen."

At the closing session on Saturday, further speeches and discussions were the order of the proceedings, after which the committee on resolutions undertook its duty of crystalizing in black and white the general sentiments and results. Their labors as approved by the convention effected a set of resolutions commending the aims and purposes of the gathering in assisting the good roads movement and providing for an annual convention in the interest of good roads, to be held under the direction of the Associated Automobile Clubs of New Jersey. Although the discussion of legal matters relating to automobiles had been barred from the convention speeches or discussion, the prevailing sentiment favoring modifications in the present stringent New Jersey automobile law found expression in a resolution to that effect.

Incidental to the serious business, the possibilities for seaside frivolities and entertainment which Atlantic City offers were fully explored, the gaiety of the resort having as yet in nowise abated. The 200 automobiles used by the members of the motoring fraternity in bringing themselves and a good share of the non-motoring delegates to the convention were kept busy all the time in the service of the ladies.

Big Loss Caused by Poor Roads.

That $3,000,000 is lost daily in the United States because of poor roads is the statement by which Samuel Hill, the well known road expert of Seattle, Wash., sums up the constant waste and expense that lack of properly built highways impose upon those who have to haul loads in the rural districts. On his way to the First International Congress of Road Builders, which is to be held in Paris for two weeks following October 11, Hill stopped over in New York City a few days, before taking ship, and talked freely about road matters. He advocates the use of convict labor by the states, and thinks that the Federal government should be much more liberal in making appropriations for the assistance of districts desiring improved highways. At Paris he will tell of the very successful and satisfactory roads constructed in the State of Washington by the use of cube rocks of graduated sizes, melted tar and fine pebbles.

Good Roads Enthusiasm in California.

By proposing a special bond issue of $18,000,000 for the construction of two great highways in California to join the county seats of all the counties in the State, Governor Gillett has secured the good will of all local good roads advocates all over the territory. At a good roads congress held in Sacramento on the 19th ult., 82 delegates, representing 11 counties, rose up en masse and called him blessed. A long list of addresses were delivered concerning various phases of road financing and building, and technical men representing the counties, the State and Federal government, gave the convention the results of their investigations.

To Raise Road Building Fund.

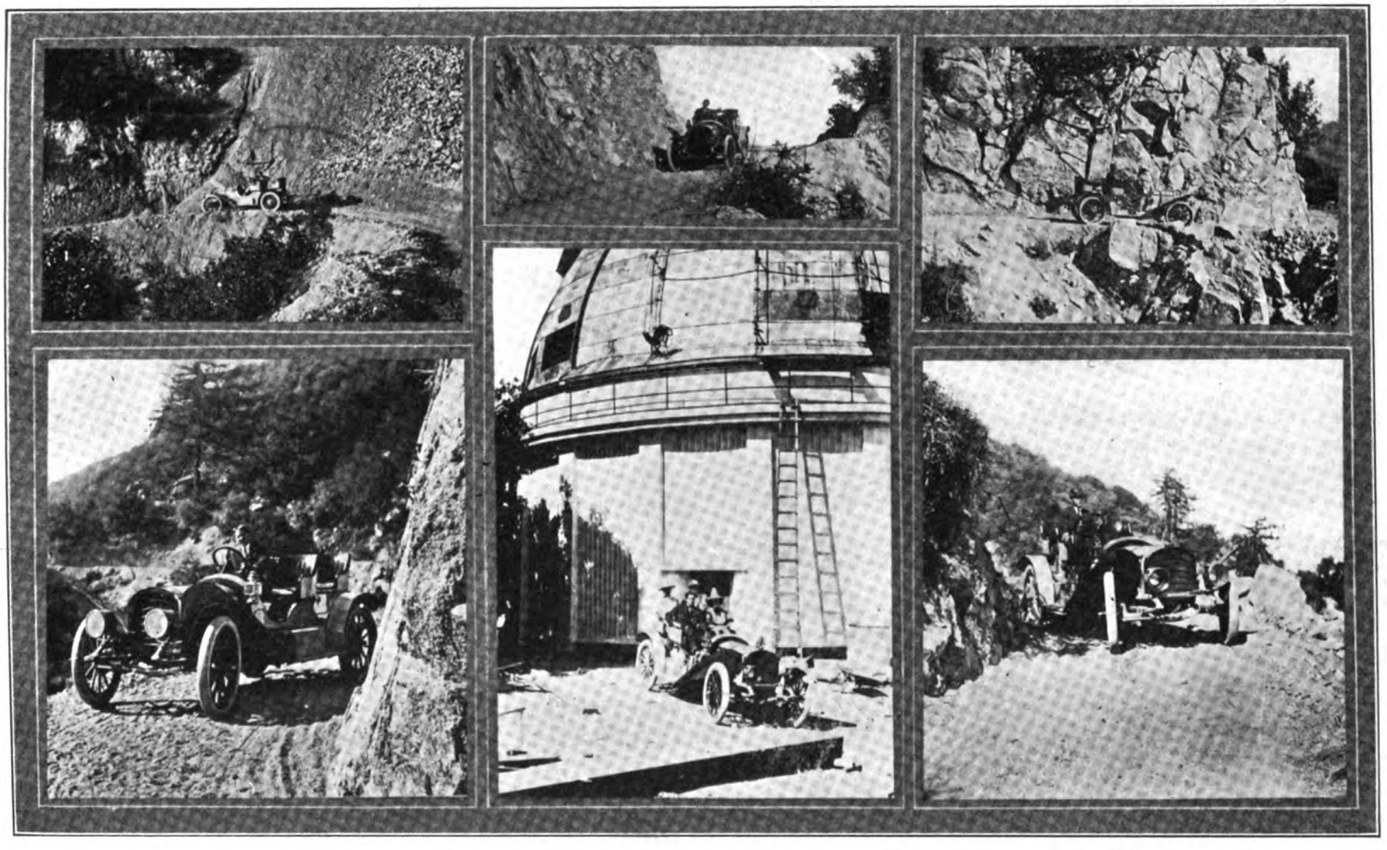
So desirous are the members of the Scranton (Pa.) Automobile Association that a State road be built over the Poconos toward Stroudsburg, Pa., that they have undertaken to raise $6,000 to assist the townships along the line. With such a financial lift, the farmers and the residents of the small towns are expected to go into the movement with enthusiasm.

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AUTOMOBILE FOR SKY EXPLORERS

Mount Wilson Observatory to Have Motor Car Service—Successful Rambler Test on Zigzag Mountain Road.

Not long ago, a public spirited citizen of a western village wired Andrew Carnegie: "Can you please furnish our town with a jail?" Upon another occasion, a librarian is said to have written the eminent steel magnate: "Could you kindly furnish our Carnegie library with an automobile?"



VIEWS SHOWING RAMBLER CLIMBING THE CROOKED ROAD UP MOUNT WILSON

It is understood that these modest requests were not fulfilled. Nevertheless, the automobile is destined to play an important part in the scientific work to be accomplished by the Carnegie Institute of Washington in the big observatory now being erected on the top of Mount Wilson, 14 miles from Pasadena, Cal. Professor Ritchey, superintendent of the Carnegie Institute, who is in charge of the work of building the huge 60-inch telescope, has during the past year been facing quite a problem in connection with the erection of the large observatory. The distance from the Pasadena workshops to the top of the mountain is nine miles, and Professor Ritchey and other astronomers have to make frequent trips to the summit. Formerly they walked up, thereby consuming a great deal of time, so during the past year they built a road at a cost of several thousand dollars. This has a rise of 5,200 feet in the nine miles over which it extends, and skirts the edge of the mountain, with many short turns and dangerous inclines, some grades being as great as 25 per cent.

It occurred to Professor Ritchey and his associates that a great deal of time could be saved by using an automobile that could negotiate the grade—provided such a one could be found. The matter was taken up with W. K. Cowan, Los Angeles, representative of Thos. B. Jeffery & Co., and a Rambler car was furnished for a test trip to the top of the mountain.

The ascent was made in 1 hour and 15 minutes, most of the climb being made on the intermediate gear. Many of the turns were so short that the car had to be backed once or twice in order to make the turn safely.

The success of the test was such as to convince Professor Ritchey of the adaptability of the automobile to such strenuous hill climbing, thus saving a great deal of time and making it possible for necessary supplies to be transported to the top of the mountain, without difficulty. The elimination of the necessity for physical exertion on the part of the members of the astronomical staff is in itself a matter of much importance.

This is the second astromomical station in California to receive the benefit of motor car transportation. An automobile stage line was started in operation about two months ago, running up Mt. Hamilton to the famous Lick Observatory, near San Jose.

Automobile Line Planned for Mt. Desert.

A new and strategic development of the conflict between the pro-exclusionists and non-exclusionists of the automobile from Bar Harbor was brought to light late last week when it was discovered that a syndicate had purchased the Green Mountain road, one of the most beautiful and exclusive pleasure drives on the island and proposed converting it into an automobile route up which sight-seeing cars would be driven for the purpose of giving the public the benefit of the abundant views. Just who is back of the plan and what further extension of it may be contemplated has not as yet been learned. It is known that a thorough reconstruction of the road will be untertaken before another season opens, however, so that the business of automobile transportation may go merrily forward as soon as the season permits. Just what means the summer residents will take to further block the use of motor cars on the island remains to be seen, but it is known that they are by no means idle, and next summer undoubtedly will witness active renewal of the merry war.

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PRIZE ARGUMENTS FOR SALESMEN

Jeffery Institutes Odd but Practical Contest —Ten Planks in Rambler Selling Platform Prize Winners Produce.

It is part of the trade of salesmanship to have the advantages of the product from the manufacturing, marketing and utility points of view condensed and studied to a degree where they form a part of every sentence spoken and every action carried out. It is not always, however, that the manufacturer or dealer is able to modify his selling platform as it were, nor to gather about him assistants of the sort who would be able to make the most advantageous use of such a platform did it exist. On this account, competitions organized by and within selling organizations to determine the most telling arguments to be used, in carrying or suppressing opposition, are at once interesting and instructive. A case in point is the recent contest instituted by Thomas B. Jeffery & Co., in an effort to bring out the best reasons why it is most advantageous for a dealer to engage in the sale of the Rambler car.

No less than 217 experienced and successful Rambler dealers grasped the opportunity of bidding for a share in the $125 prize distribution. Ten men, each of whom has been identified with the company for many years, served in the judiciary capacity. Needless to say the contest was productive of a host of useful and suggestive ideas.

J. F. St. Clair, Concordia, Kansas, won the first prize of $50. Miss Ella J. Brown, who, as secretary of the Coit Automobile Co., Omaha, Neb., has helped manage a $300,000 business during the past year, was awarded the second prize of $25, while L. G. Martin, Pittsburg, Pa., drew third prize, and I. R. Campbell, Des Moines, Iowa, fourth.

The ten best reasons ultimately chosen are as follows:

"The goods—the quality of the Rambler product.

"The reputation and stability of the company.

"The factory—the largest and most complete of its kind.

"The advertising—the most extensive and effective done by any manufacturer.

"The sales helps—the system of answering the inquiries of all prospective customers by personal letter without cost to the dealers.

"The interchangeability of parts and quick service in supplying came.

"Prices of parts—one-half to two-thirds lower than those of any other car.

"Fourteen thousand satisfied users—every one helping the dealer to sell Ramblers.

"Fourteen thousand cars in use—not a single one out of commission.

"The policy of the company—fair prices, best product, fair treatment."

Wagon with Detachable Power Plant.

Users of business vehicles of the self propelled type are probably in a good position to appreciate the "strong" feature of the new Grabowsky power wagon, which is the quick detachable power plant. Instead of the more conventional arrangement of parts, the entire motor and change gear group is mounted on the two side rails of the sub-frame in such a way that by loosening a couple of bolts and casting off a half dozen minor connections, the entire aggregation may be drawn forward and out of the machine. In this way it is possible to replace the engine with a fresh one in a few moments, or to perform some trifling repair under the most advantageous circumstances, without delay and without having to resort to acrobatic contortions. This feature, as well as numerous others peculiar to the line are described and illustrated in the new catalogue the Grabowsky Power Wagon Co., Detroit, Mich., have issued.

"The A B C of Electricity" will aid you in understanding many things about ignition that may now seem hard of understanding. Price, 50c. The Motor World Publishing Co., 154 Nassau Street, New York City.

Long Island Motor Parkway Sweepstakes

SATURDAY, OCTOBER 10.
Starting at 9 A. M. Leading makes of cars to compete. $5,000 in prizes—cash or plate.

William K. Vanderbilt, Jr. Cup Race

SATURDAY, OCTOBER 24.
Starting at daylight. American and foreign contestants. Speed. Endurance. Crack drivers.

Fastest course in the world, including 11 miles of cement parkway. Boxes, seats, parking spaces, at 437 Fifth Avenue, Telephone 5293—38th St., New York City.

The Vanderbilt Cup Commission.

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DECALOG OF THE STORAGE BATTERY

Weiss Formulates Ten Precepts for Its Care —Methods for Testing and Regulating Its Condition.

Because the early training of the average motorist was almost wholly in the use of dry batteries for ignition purposes there is a very general tendency to neglect accumulators when applied to this use. This tendency is further accentuated in cases where double ignition is provided for, by the fact that the batteries are seldom called into requisition. Hence the best possible results are seldom attained. On this account, the watchful Technical Committee of the Long Island Automobile Club has been moved to issue a decalog of storage battery precepts which, because of their concise and comprehensive nature should be studied by every user as well as by those whose duty it becomes at times to instruct the novice in the care of his new machine.

"Although a storage battery is a somewhat delicate apparatus and easily spoiled," says the committee through its chairman, Louis T. Weiss, "yet ordinary care, and a rigid adherence to a few simple rules will keep the cells well and healthy so that the expert or doctor will not be needed during the greater part of their useful life." The Ten Commandments for the battery user, are as follows:

First. The first necessity is cleanliness. There are exceptionally few cases to be observed where cleanliness is apparent. There is nothing that more easily provides and causes a leakage of the current, than accumulation of dust and many other kindred types of matter. When such are permitted to remain on the top of the cells they become saturated with the moisture which inadvertently sprays from the cells or cells while charging, and thus form an excellent by-pass from positive to negative terminals, and in a very short time entirely empties the battery.

Again, this moisture is permitted to attack the terminals of the battery, and these being generally made of brass or similar metal are easily attacked and corroded so that they are immovable, and sometimes entirely enveloped by a heavy coasting of blue crystals of sulphate of copper. This salt is readily soluble in water and acids, and if allowed to get into the electrolyte of the battery, is fatal to its life. Yet how often is this salt washed off with water, or removed by other methods, and allowed to fall into the cells? It is well to keep the terminals coated with vaseline or thick grease and so prevent corrosion. Just a few minutes, say once a week, will suffice to clean up a battery, and so comply with that first and most necessary rule.

Second. Always keep the plates covered with their electrolyte, or acid, because if they are exposed or out of the liquid a sulphation occurs of such a nature as to damage the plates irreparably, besides which that exposed surfaces is inactive and useless.

Third. Never add sulphuric acid to the cells to compensate loss, unless such loss has been caused by a spilling of the acid, and then first ascertain the specific gravity of the acid remaining in the cells and make up with diluted acid of the corresponding specific gravity till the plates are again covered. In all cases of adding to, or compensating evaporation losses (except as above stated) nothing should be used but pure, distilled water, and absolutely pure and clean acid. A healthy battery used continuously, should not require any addition of acid more than once a year, but will probably require pure water at least once a week, if not more often.

Fourth. Provide yourself with a hydrometer to enable you to test your electrolyte and acids periodically, and you will avoid a great deal of trouble.

It may be said that the condition of the specific gravity is the pulse of the cell, and certainly it is the one means of ascertaining the condition of health of the cell or battery; like one's pulse, which enables the doctor to tell you whether you are well or not.

Let us suppose that the specific gravity of the electrolyte as given by the maker of the battery to be maintained at 1.250 degrees, at a temperature of 60 degrees Fahrenheit, when fully charged and cell in thorough working condition. Then apply the following:

At the end of the complete discharge the specific gravity will read somewhere about 1.150 degrees. If only half discharged. then about 1.200 degrees. If only one-quarter, 1.225 degrees, or three-quarters, 1.175 degrees, so that one may arrange a scale whereby the amount of charge used, or that remaining in the cells, may be estimated.

On re-charging, the specific gravity will rise from its reading of 1.150 or whatever it may be, to that of 1.250 again, thereby indicating the cell has received its full charge. In cases where the specific gravity will not show any rise during or at the end of its charge, it indicates a short circuit, and the cell has not received its charge.

In cases where the specific gravity comes up to 1.250 at the end of its charge, but falls to a lower figure during a period of idleness or standing for say 24 to 48 hours, this also indicates a short circuit, or else local action (or internal discharge), due to contamination of the electrolyte by some impurity.

Fifth. Never, on any account, discharge your battery below 1.8 volts per cell, because it develops a condition of chemical natures that is not easily remedied. To ascertain this it is necessary to have a small pocket voltmeter, reading from say 0 to 3 volts. These are also very inexpensive and will, if used, greatly prolong the life of your battery by helping you to know when the battery has fulfilled its functions. It is the greatest defect that a battery has, that it cannot give warning, groan, or in some way protest against being overworked.

The normal voltage of the storage battery is 2.0 per cell when doing no work, which is, if the electrolyte be 1.250 specific gravity, usually raised to about 2.10 volts. The storage battery, unless worked below 1.80 volts, has a recuperative power of rising from 1.80 volts to the normal of 2.10 volts within a few minutes after the discharge current has been discontinued. Unless a current is passing of say one-half of one ampere, the voltmeter reading is useless.

Sixth. Never adopt the method of putting a wire across the positive and negative terminals to see if there is any "spark." It is almost a dead short circuit, and if the cell be of a small capacity of say, thirty ampere hours, and the wire No. 16 copper, the current passing may be anything from 30 to 100 amperes for a fraction of time, which, when calculated is a very appreciable amount of the total capacity, It is also very detrimental to the cell in assisting the disintegration of the plates or active material thereon.

Seventh. Never be tempted to try everybody's advice upon any defect if it is serious but get good advice at once from a reliable source. Hardly two persons have the same experience or the same conditions, and what another did satisfactorily may be very unsatisfactory for you to do.

Eighth. Never allow the cells to stand in a discharged condition, as it becomes very difficult to get them properly charged, if left standing any length of time, unless great care is taken during the succeeding charge.

Ninth. Do not forget that the discharge current of the battery may be affected by the adjustment of the trembler of the sparking coil. The current rate of the discharge should be about one-half an ampere, but a badly adjusted coil may take as much as 3 or even more amperes, thus eating up the energy of the cells, in ampere hours, in one-sixth of the time. Thus a 30 ampere-hour cell discharging at one-half an ampere will last 60 hours, but discharging at 3 amperes will last only about 8 or 9 hours.

Tenth. Although, as before stated, the storage battery is a more or less delicate apparatus, yet if only one-tenth of the attention given to the mechanical parts of the car be bestowed on the battery it will be found to be a wonderfully robust and reliable apparatus. But if neglected entirely and left to attend to itself, or do the best it can for itself, it will be found to arrive very soon at a condition of disease generated by a congestion of small ailments.

In addition to the ten, an eleventh commandment also is added, which, like all eleventh commandments is sufficiently obvious to be overlooked frequently. It is: Always adhere strictly to the maker's instructions which will apply to his type of cells.

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—Afford to **buy** it because it is moderate in price.

We know you can afford to **keep** it, because we have many letters from users of Mitchell, testifying from actual daily experience, that it is the most economical car to **operate.** Before **you** buy a car, send for these letters and try a Mitchell in a 50 or 100-mile road test.

In demonstration, you'll notice not only that its style, finish and construction is equal to that of the extravagantly high priced cars, but that its **performance is too.**

Proof is easy, Mr. Business Man.

The Mitchell Agent will be glad to take you out at any time you say. Just call him up—no obligation on your part.

Try the $2,000 Touring Car—the $2,800 Limousine—the $1,250 Roadster or the $1,000 Runabout.

Get demonstrations of high priced cars and compare the Mitchell with them.

Call up the Mitchell Agent to-day and just say

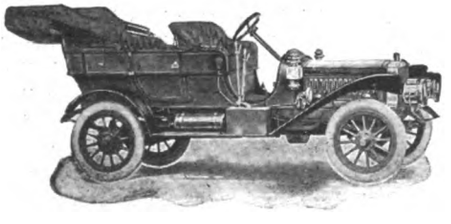
"Show Me."

The Mitchell Touring Car shown below is 35 H. P.—4-cylinder—speed, 50 miles—finish, Mitchell blue—price, $2,000.

Write for Catalogue No. 18, describing the other Mitchell models.

Mitchell Motor Car Co., 287 Mitchell street, Racine, Wis.

Standard Manufacturers,
A. M. C. M. A.



50% REDUCTION
DURING 1908 ON
DOW TUBES
NON-DEFLATION
The Best Tube Ever Manufactured

NEW 1909 PRICE LIST In Effect October 1, 1908, Superseding All Others

AMERICAN SIZES

Size	Price.
28x3	$8.60
30	9.25
32	9.45
34	9.55
36	9.75
28x3½	11.85
30	12.10
32	12.60
34	13.25
36	14.10
30x4	15.10
31	15.20
32	15.35
34	16.70
36	18.15
32x4½	17.35
34	19.35
36	20.70
34x5	20.10
36	21.60
34x5½	21.50
36	22.15

METRIC SIZES

Size	Price
860x85	$13.25
710x90	11.85
760	12.10
810	12.60
840	12.80
870	13.25
910	14.10
960	16.70
1010	18.15
765x105	15.10
815	15.35
875	16.70
915	18.15
820x120	17.35
850	18.35
880	19.35
920	20.70
1020	22.15
1080	24.00
895x135	21.50
935	22.15
1000x150	28.00

NOTE.—A discount of five per cent. will be allowed if cash accompanies order; otherwise these prices are net.

The price at which each tube must be sold will hereafter be printed upon the tube as well as upon the box, and the tubes must be sold under the agreement contained upon the tag attached to each tube.

SEND FOR CATALOGUE AND REPORTS OF TESTS.

DOW TIRE COMPANY

2000 Broadway, New York **889 Boylston St., Boston**

SIX-CYLINDER ENDORSEMENT

¶ At the present time (September, 1908) there are over 1,250 STEVENS-DURYEA Six-Cylinder Cars in use—from Portland, Maine, to Portland, Oregon—from Minneapolis, Minnesota, to Mexico City, Mexico.

Every Stevens-Duryea SIX is giving perfect satisfaction

¶ It is an acknowledged fact that any one who has ever driven a STEVENS-DURYEA **SIX** will never go back to a Four, excepting for a smaller car. This strongly shows the tendency of the future. Any one purchasing a Four-Cylinder Car of more than forty horsepower and paying over $2,750 should preferably secure a **SIX.**

STEVENS-DURYEA CO. Chicopee Falls Massachusetts

Member A. L. A. M.

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The Week's Patents.

892,452. Spring Wheel for Motor Cars and Other Vehicles. Emilo Rodriguez, Chiswick, London, England. Filed July 23, 1907. Serial No. 385,130.

1. In combination, a felly having two springs of elliptical shape connected thereto by a bolt, the ends of the springs connected to cross bolts, a tread suspended upon the said springs by side pieces, a bolt carried by the said side pieces, carrying a roller, a flexible band of leather connected to the said cross bolts of the springs, the said roller resting in the leather band, to flexibly support the tread.

892,481. Glass Front for Automobiles. Julius Wieden, Los Angeles, Cal. Filed Oct. 2, 1907. Serial No. 395,631.

1. A glass front for automobiles comprising a frame, means for attaching the frame to an automobile, a series of transparent panels pivoted in the frame, an operating bar connected with all of the panels, a strap around the center of each panel, each strap having an ear, an operating bar connected to the ears, a hand lever pivoted on the frame, a link connecting the hand lever to the operating bar, a sector, and latch mechanism for latching the hand lever in position on the sector.

892,499. Carburetter. Ernest N. Broderick, Detroit, Mich. Filed May 22, 1907. Serial No. 375,030.

1. A carburetter comprising a float chamber, a vaporizing chamber over the float chamber, an atomizing valve discharging from the float chamber into the vaporizing chamber, opposite air inlet ports in the vaporizing chamber, a valve closure within the vaporizing chamber, adapted to close said ports either independently or simultaneously, deflecting means opposing the air ports, an outlet port in the vaporizing chamber, a closure for the port within the chamber, and a throttle lever controlling the atomizing valve and inlet and outlet closures.

892,539. Driving Mechanism. George W. Morris, Racine, Wis. Filed April 20, 1908. Serial No. 428,204.

1. In a device of the class described, the combination with a shaft and a wheel loosely mounted on said shaft and provided with an internal gear and a laterally-extending annular flange, of a second wheel loosely supported on said flange and also provided with an internal gear, and a clutch device secured to and slidingly mounted upon said shaft and adapted to be moved into engagement with either of said internal gears.

892,544. Engine Starter. George L. Odenbrett, Milwaukee, Wis. Filed Oct. 5, 1907. Serial No. 396,105.

1. A starter for multiple cylinder engines, comprising a selecting valve driven by the engine and adapted to establish communication with the respective cylinders of the engine when their pistons are in position to receive an explosion, a charging chamber communicating with the selecting valve, an air reservoir and a gas reservoir communicating with the charging chamber, and controlling valves in the connections between the charging chamber and the air reservoir and the gas reservoir and the selecting valve respectively.

892,569. Fuel Burning Apparatus for Motor Vehicles. George E. Whitney, Boston, Mass., assignor, by mesne assignments, to Stanley Motor Carriage Company, a Corporation of Massachusetts. Filed Feb. 18, 1901. Serial No. 47,723.

1. In an apparatus of the class described, one or more mixing chambers having curved side walls and top and bottom plates, air supply tubes leading through said chambers and plates, an inlet conduit for each mixing chamber entering the latter adjacent and approximately tangentially to the curved side wall thereof arranged to project its supply through the bottom plate and towards the top plate of its chamber.

892,609. Starting Device for Explosive Engines. Lawrence S. Nash, Detroit, Mich. Filed July 31, 1907. Serial No. 386,358.

1. Starting mechanism for a multi-cylinder engine, comprising a pair of valves each adapted to admit compressed air to the cylinder of the engine, a cam shaft driven by the engine cams movable on the said shaft, adapted to operate said valves, a slide rod journaled in the shaft, oblique slots formed in the shaft, studs extending through the slots, connecting the slide rod and cams, and a spring on the slide rod, normally holding said cams disengaged with the valves.

892,673. Wheel Tire. Andre Michelin, Paris, France. Filed No. 4, 1905. Serial No. 285,817.

In combination in a tire, a body, a tread attached thereto, a band of leather over said tread, rivets passing through said tread and band of leather, a layer of rubber uniting said band of leather to said tread, and a layer of rubber between said tread and the body, in the middle part of the tire, in which layer the washers of the rivets are embedded.

892,691. Roller Bearing. Eliel L. Sharpneck, Winthrop, Mass. Filed July 8, 1907. Serial No. 382,577.

1. A roller bearing comprising a cylindrical casing having an annular rib on its inner surface, a series of anti-friction rolls having annular channels, engaged with said rib, and annular grooves, a series of pairs of separator rolls, arranged between the anti-friction rolls, one of each pair of the separator rolls having annular ribs engaged in the annular grooves of the anti-friction rolls, and rotatable means engaged with each pair of separator rolls, as described.

892,744. Transmission Gear. Frederick E. Landberg, McCook, Neb. Filed Aug. 27, 1906. Serial No. 332,257.

1. The combination, with an intermediately pivoted transverse axle and wheels loosely mounted on the ends thereof, of gears rigidly secured to said wheels, a shaft mounted on said axle, gears carried by said shaft and adapted to mesh with the gears on said wheels, an auxiliary shaft on said axle, means to drive said auxiliary shaft including a sprocket mounted thereon and having universal movement with relation thereto, and means of connection between said main and auxiliary shafts.

892,761. Radiator. George W. Nutz, Chicago, Ill. Filed Sept. 16, 1907. Serial No. 392,973.

1. In a radiator of the type herein described, the combination of a casing comprising upper and lower horizontal members and vertical side members forming an open center, a series of radiator tubes arranged in said center and a series of secondary tubes arranged within the radiator tubes and open to the atmosphere at both ends, one of the casing members having a curved inlet throat formed by a flat plate to which the secondary tubes are attached at one end and a curved plate forming a deflector for directing the air into the secondary tubes, substantially as set forth.

892,763. Induction Coil Unit. Carl A.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order. In capitals, 25 cents per line.

FOR SALE—300 sets 28x3 best grade artillery wheels, fitted with clincher rims, less hubs. Write for bargain prices on single sets of the lot. THOMAS B. JEFFERY & COMPANY, Kenosha, Wis.

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Pfanstiehl, Highland Park, Ill. Filed Nov. 11, 1907. Serial No. 401,640.

A coil section or unit, comprising a pair of outer spool heads formed with central orifices and anular necks, one of which necks fits over the other, an intermediate head formed with a corresponding orifice and with a small passage adjacent to said orifice, said intermediate head being arranged intermediate of the outer spool heads, and reversed coil windings in the annular cavities between the heads aforesaid and connected together by a wire extension passing through the small passage aforesaid, substantially as set forth.

892,790. Compound Explosive Engine. Joseph A. Williams, Cleveland, O. Filed June 7, 1905. Serial No. 264,088.

1. In a compound explosive engine, a high-pressure cylinder, a valve connected with said high-pressure cylinder through which air may be admitted thereto during the exhaust from the said cylinder, means for preventing said valve from opening except during the exhaust from the high-pressure cylinder, and a second valve through which the air is drawn from the cylinder, said air scavenging and cooling the cylinder.

892,832. Radiator for Automobiles. August L. F. Holzerland, Buffalo, N. Y. Filed Sept. 10, 1906. Serial No. 333,978.

1. In a radiator for automobiles and the like, the combination with the inlet-chamber having an inlet-pipe, an outlet chamber having an outlet pipe, and the fluid passages connecting said chambers, of a fluid receiver within the inlet chamber and inclined in opposite directions from said inlet pipe.

892,853. Pneumatic Tire for Vehicle Wheels. John R. Kline, Los Angeles, Cal. Filed Feb. 20, 1907. Serial No. 358,518.

1. A pneumatic tire comprising an outer tube and inner tubular means having a plurality of sections formed as elastic cells placed end to end, each forming a pneumatic chamber, and means for inflating all of said cells simultaneously comprising a distributing tube having an inwardly opening check valve, a check valve opening inwardly in each cell from without the distributor tube and accessible from without the distributor tube to permit forcible opening thereof.

892,859. Speed Changing Gear. Charles H. Lee, New York, N. Y. Filed June 21, 1907. Serial No. 380,044.

1. A speed changing gear, comprising a drive shaft, a driven shaft, a plurality of gears adapted to be locked to one of said shafts, a plurality of gears mounted on the other of said shafts and intermeshing with the corresponding first mentioned gears, the gears on one of said shafts varying in size, whereby dicerent relative rates o frotation of the shafts may be secured, selective means for locking any one of the other set of gears to its shaft, and means for unlocking all of the dicerent sized set of gears from their shaft, save the high speed gear when the high speed gear of the other set of gears is locked to its shaft by the operation of said lelective means.

892,864. Cooler for Automobiles and the Like. Jonathan D. Maxwell, Tarrytown, N. Y., assignor to Maxwell Briscoe Motor Company, North Tarrytown, N. Y. Original application led Dec. 31, 1904, Serial No. 239,160. Divided and this application filed Sept. 28, 1905. Serial No. 280,451.

1. In an automobile, the combination with an engine having a cylinder with a jacket for cooling medium, of a radiator having unright channels forming a primary field and a secondary field for passage of the cooling medium, and a central chamber in communication with said channels and arranged substantially horizontally and medially across said radiator, to receive the heated fluid from said jacket, said fluid passing from said central chamber to said primary cooling field, whence it returns into said central chamber, and thence passes to said secondary cooling field, substantially as described.

892,866. Roller Bearing. Eimle Moonen, Paris, France. Filed May 8, 1907. Serial No. 372,603.

1. In a roller bearing, the combination of two bearing rings, each in one piece, one of which is provided with a circular rib and the other with a circular channel, an extensible segment lodged in said channel forming a rib on the ring, rollers having grooves engaging with the circular rib and with the segment, the channel ring being provided with holes for permitting access to the segment to compress the same, whereby the bearing can be assembled and dismounted by sliding one bearing ring along the rollers carried by the other bearing ring.

"The A B C of Electricity." Price, 50c. The Motor World Publishing Co., 154 Nassau Street, New York City.

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Self-Starting Magneto

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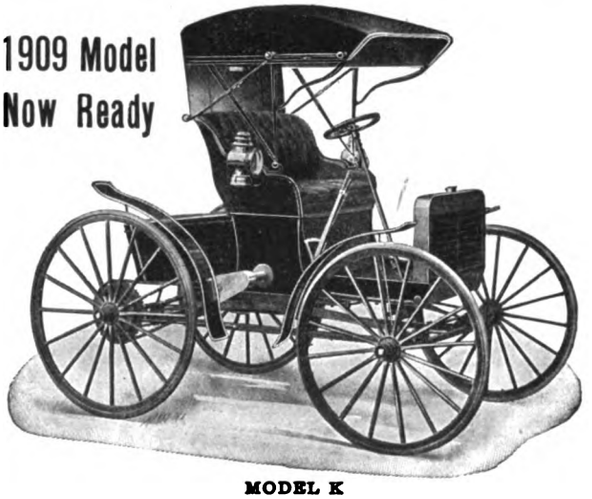
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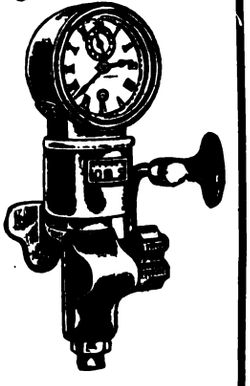
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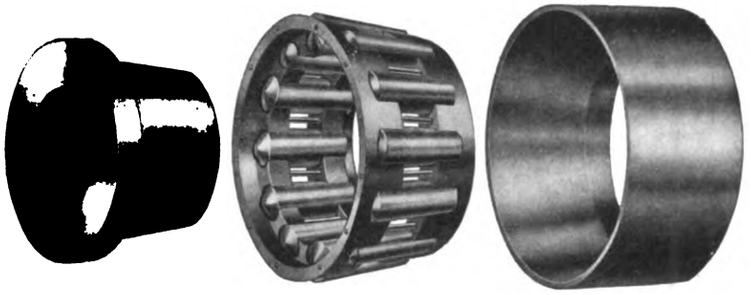
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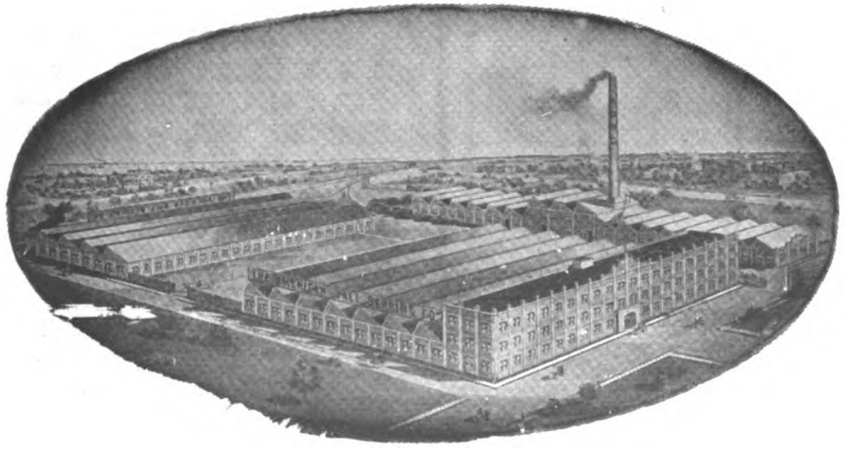
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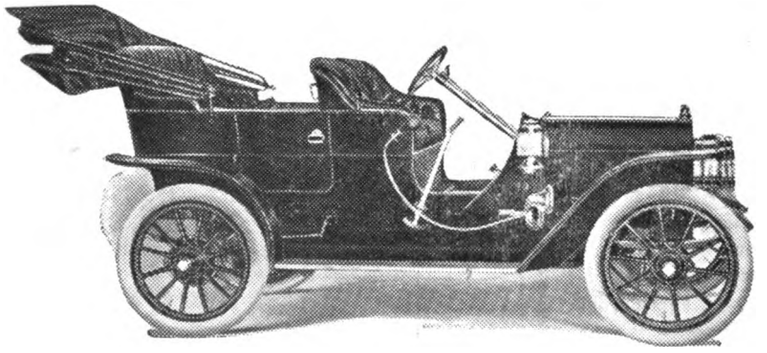
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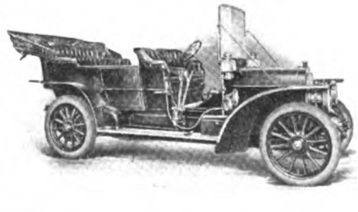
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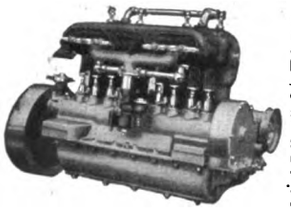
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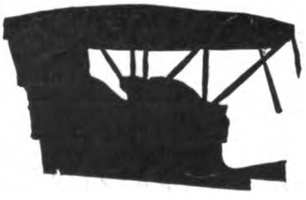
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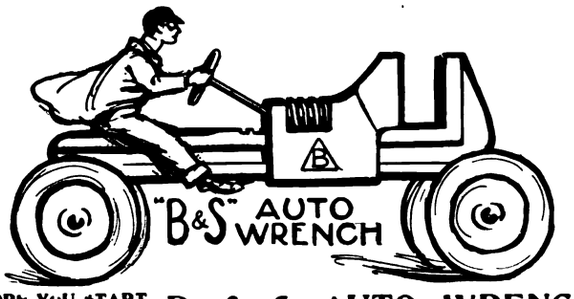
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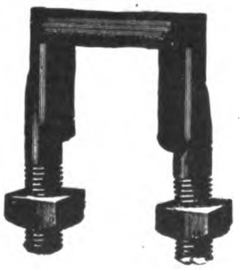
GET A

STEPNEY
AND KEEP GOING

Agencies in all the large cities.
Catalogue B tells all about it. Write NOW.

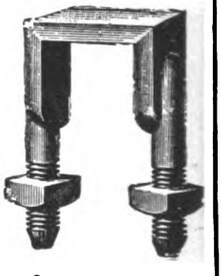
The Spare Motor Wheel of America, Ltd.
Main Office: 236 Michigan Ave., Chicago

FORGINGS for the AUTOMOBILE TRADE



Satisfaction Guaranteed

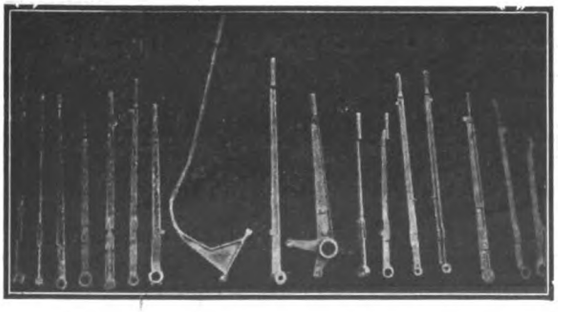
Thousands of our **Spring Clips** are now in use, having been supplied to the leading automobile manufacturers.



Have you secured our prices?

THE M. SEWARD SONS COMPANY, New Haven, Conn.

PARSONS' MANGANESE BRONZE LEVER CASTINGS



Sole Makers
THE WILLIAM CRAMP & SONS SHIP & ENGINE BUILDING COMPANY, - Philadelphia, Penna.

IF YOU ARE INTERESTED IN **MOTORCYCLES**

The Bicycling World and Motorcycle Review

WILL INTEREST YOU

PUBLISHED EVERY SATURDAY AT
154 NASSAU STREET, NEW YORK

$2.00 Per Year

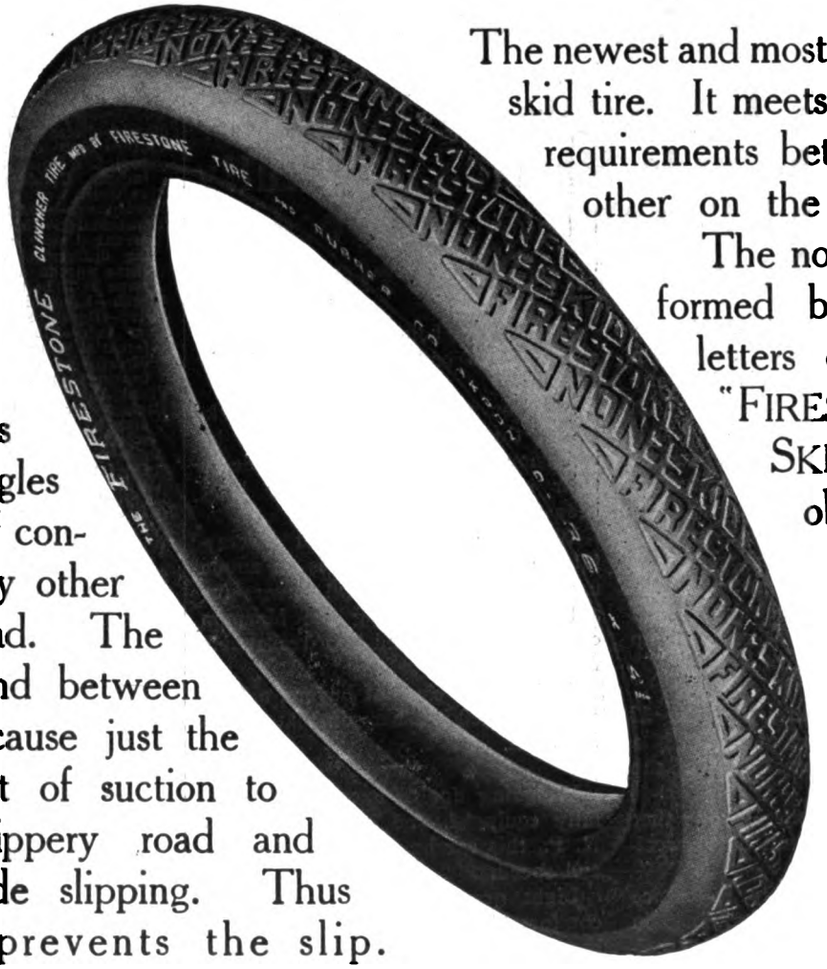
Specimen Copies Gratis

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"The Name Prevents the Slip"

"Firestone"

Non-Skid Tire



The newest and most practical non-skid tire. It meets the necessary requirements better than any other on the market.

The non-skid tread is formed by the raised letters of the words "FIRESTONE NON-SKID" arranged obliquely across the body or tread surface of the tire

The letters of the words form more angles and points of contact than any other non-skid tread. The spaces in and between the letters cause just the right amount of suction to grip the slippery road and prevent side slipping. Thus the name prevents the slip.

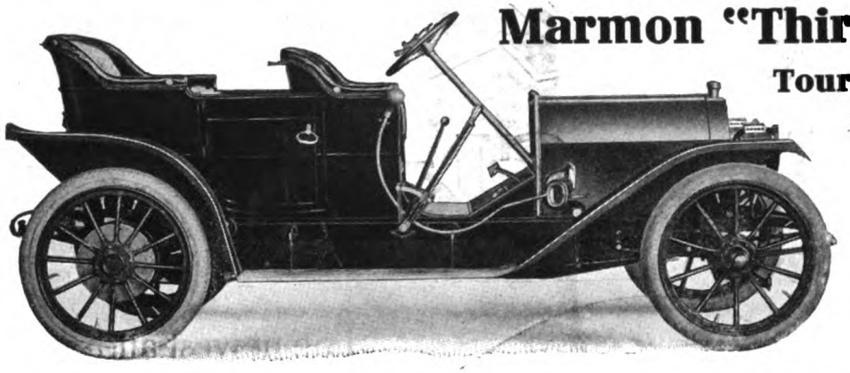
Don't fail to see this remarkable tire at any of our Branches.

FIRESTONE TIRE & RUBBER CO.

Main Offices and Factory, Akron, Ohio. **Branches and Agencies Almost Everywhere.**

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Announcement 1909
THE MARMON CAR
The Easiest Riding Car In The World



Marmon "Thirty-two"
Touring Car or Roadster
$2400

Not An Automobile On Paper But A High-Grade Marmon, Carefully Built and Completely Equipped, At A Very Attractive Price.

In meeting the demand for a lighter car at a price within easy reach of a larger circle of buyers, this Company has not felt called upon to slight its design, cheapen its material nor permit any variation from the superb workmanship that has characterized the Marmon from the beginning.

An institution known for more than fifty years as a builder of machinery of the highest grade cannot afford to attach its name and guaranty to an automobile that will not measure up with the best at home or abroad.

Understand, therefore, that the 32 H. P. Marmon, selling at $2,400, is a high-grade car in every sense of the word.

The design is not merely one that looks good on paper, but it is a reality—practical, proven.

In careful workmanship, in choice of materials, in patient building, in all that goes to make a really excellent, dependable automobile, this $2,400 car will maintain the Marmon reputation.

Another thing—these cars are being built.

We are not merely collecting orders on hopes.

The cars are being built—built by us and built to endure under hard service.

And you may be sure that the makers of the Marmon are going to be in business and will be responsible to their customers, just as they have been for over fifty years.

We are certain from past successful experience that there is an ample market among thoughtful buyers for automobiles possessing the Marmon character, and backed by a reasonable firm.

And to that class of buyers, a Marmon at $2,400 is a bargain that speaks for itself.

Weighing not to exceed 2,000 lbs., fully equipped, and having 32 to 40 H. P., this car has a world of power and speed.

Light, graceful, unusually quiet and comfortable, this car presents a **known value** which invites the closest mechanical inspection.

Furnished with either five-passenger, four-passenger or roadster body. The rear seat of the four-passenger body can be removed leaving a platform for trunks and luggage, making it an ideal suburban car.

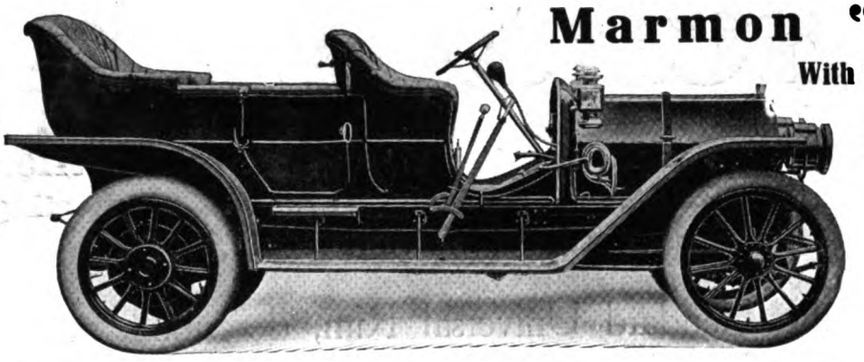
Specifications

Frame—Pressed steel.
Motor—Four cylinders, four cycle, water cooled. Bore 4½ inches; stroke 4¼ inches. Cylinders cast in pairs and set vertical.
Horsepower—Thirty-two to Forty.
Transmission—Selective type sliding gear arranged very compactly in case adjoining differential housing on rear axle—three speeds and reverse. Mounted in large H-B ball bearings.
Clutch—Expanding ring.
Drive—Bevel gear, shaft drive.
Rear Axle—Floating type. Bevel gear differential removable through axle housing directly to the rear. Large H.B ball bearings throughout.
Front Axle—Forged steel I section.
Brakes—Two brake shoes 14 inches diameter by two inches face in each rear wheel. Both internal expanding placed side by side, both faced with fabric. Operated by equalizers. Improved screw and segment adjustment conveniently placed.
Clearance—Ten inches.
Wheelbase—112 inches. Tread 56½ inches.
Wheels—34x3½ inches quick detachable tires.
Steering Gear—Irreversible, screw and nut. One adjusting nut. Eighteen inch steering wheel.
Control—Spark and throttle levers on steering wheel. Foot accelerator.
Oiling—Patented automatic force feed in motor, delivering oil through the hollow crank shaft directly into the main bearings, connecting rod bearings, and piston pin bearings. Oil thrown off by movement of crank lubricates the walls of the cylinders and other bearings. Oil pressure is regulated with an adjustable relief valve placed conveniently outside the crank case. Oil returns to reservoir below the sweep of the cranks and is used over and over. Oil consumption and wear reduced to the minimum.
Ignition—Bosch high tension magneto and battery, dual system, one set of plugs over intake valves.
Carburetor—Automatic, float feed.
Gasoline Tank—Capacity seventeen gallons; tank under front seat, gravity feed.
Springs—Rear, full elliptic 40x2; front, semi-elliptic 35x2.
Body—Sheet metal.
Finish—Black or maroon with running gear in same.
Tools—Very complete assortment of tools neatly arranged.
Weight—2,000 pounds.
Equipment—Two large gas lamps, gas generator or Prest-O-Lite tank; two dash and one oil tail light; horn with flexible tube and bulb; complete assortment of tools, two oilers, jack, tire repair kit and pump. Price $2,400 f. o. b. Indianapolis, Indiana.

NORDYKE & MARMON CO., (Estab. 1851) Indianapolis, Ind.

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Announcement 1909
THE MARMON CAR
The Easiest Riding Car In The World



Marmon "Fifty"
With Seven-Passenger or Four-Passenger Body

$3750

A Car of Known Value, Acknowledging No Superior At Home or Abroad.

The Marmon Car has for many years been known to the well informed as one of the three or four really high-grade cars produced in America.

The Marmon "Fifty" represents the last word in automobile design and construction to date. Luxury in the extreme marks its easy riding qualities, luxury marks its appearance; and, above all, luxury lies in the knowledge that it will do its work steadily from the beginning to the end of the journey. Faster than you care to go, with ample reserve power for the steepest grades or the heaviest roads, it carries seven passengers in ease and comfort.

A reading of the specifications will at once inform the experienced motorist that he gets in this model all—and more—that he obtains in the most famous foreign cars sold at two or three times the price, and more than he gets in any other American car at any price.

And it is worth remembering that these cars are designed and built entirely by us in the Marmon way—marked by the best engineering skill and the most conscientious workmanship.

The Marmon "Fifty" may be had with either Seven Passenger Touring Car or Close-coupled Four passenger body.

The Marmon Forty-five Roadster

This roadster possesses all the high character of The Marmon "Fifty," with a little shorter wheel base, a slightly smaller engine, and a few other details necessary to make the roadster a distinctive type. It offers a combination of high speed with unusually easy riding qualities.

Price, fully equipped, $3500

Specifications

Frames—Pressed channel steel. One frame carries the body and a sub-frame carries the power plant.
Motor—Water cooled, four cylinders, vertical, four cycle, bore five and three-eighths inches, stroke five inches. Cylinders cast in pairs, intake valves on one side, exhaust valves on the other side.
Horsepower—Fifty-Sixty.
Transmission—Selective, three speeds and reverse. Mounted in large H-B ball bearings. No gears in action on direct drive. Automatic brake slows down clutch and gears.
Drive—Bevel gear, shaft drive.
Rear Axle—Floating type. Bevel gear differential removable directly through rear of axle housing. Large H-B ball bearings throughout.
Front Axle—Steel I section.
Brakes—Two, 17 inches diameter by 2-inch face in each rear wheel side by side. Internal expanding faced with fabric, simple, convenient adjustment. Operated by equalizers.
Clearance—10 inches.
Wheel Base—118 inches. Tread 56½ inches.
Wheels—36x4 inches; 36x5; quick detachable tires.
Steering Gear—Screw and nut. Irreversible. Mounted in conical roller bearings, enclosed in dust proof, oil-tight case.
Control—Spark and throttle levers on the steering wheel. Foot accelerator.
Oiling—Patented automatic force feed in motor, delivering oil through the hollow crank shaft directly into the main bearings, connecting-rod bearings and piston-pin bearings. Oil thrown off by movement of cranks lubricates the walls of the cylinders and other bearings. Oil pressure is regulated with an adjustable relief valve placed conveniently outside of the crank case. Oil returns to reservoir below sweep of cranks and is used over and over.
Ignition—Jump spark. Bosch high tension magneto and Battery. Two independent systems.
Carburetor—Automatic float feed.
Gasoline Tank—Capacity 20 gallons. Carries reserve supply with separate outlet for same. Pressure feed by mechanically operated air pump.
Springs—Full elliptic front and rear.
Body—Cast aluminum entirely.
Finish—Black or maroon with running gear the same.
Equipment—Two large gas lamps; gas generator or Prest-O-Lite tank; two dash and one oil tail light; horn with flexible tube and bulb; complete assortment of tools, two oilers, jack, tire repair kit and pump; two extra folding seats in tonneau. Price $3,750.00 f. o. b. Indianapolis, Indiana.

NORDYKE & MARMON CO., (Estab. 1851) Indianapolis, Ind.

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Standard Detachable Rim

Resolution passed by the NATIONAL ASSOCIATION OF AUTOMOBILE MANUFACTURERS at a meeting held in New York, August 5th, 1908.

"Whereas, the Standard Universal Rim, described in the report of "the Special Rim Committee, has been recommended by the committee "as mechanically satisfactory, be it

"RESOLVED that this association hereby adopts the rim so de- "scribed as standard, subject to the consummation by the Special Rim "Committee of satisfactory commercial arrangements with the patentee "and manufacturers."

At the above meeting all the detachable rims now on the market as well as proposed new rims were carefully considered.

THIS IS THE RIM



Standard Rim as Used for Clincher Tires



Standard Rim as Used for Dunlop Tires

Hartford Rubber Works Co.
Hartford, Conn.

Morgan & Wright
Detroit, Mich.

G & J Tire Co.
Indianapolis, Ind.

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Stewart Speedometer

For 1909 we announce the most complete and beautiful line of SPEEDOMETERS ever shown—values not possible for any other speed indicator to even equal.

They combine features of workmanship, materials, construction, equipment and performance that have never been equaled by any speed indicator at any price.



Model 5, 90 mile, $50.
Model 4, 60 mile, $40.

Model 4. The same beautifully designed instrument as of last season, to which we have added an improved trip register of three dials, recording miles and tenths, which can be reset to a zero automatically. This instrument will also be equipped with a maximum speed hand. The construction of the mechanism for operating the trip and maximum hands is different to any heretofore used, and enables us to eliminate springs and other devices liable to derangement. Price, ... **$40.00**

Model 5. A duplicate of Model 4 in every feature, but made to indicate speed of 90 miles. Price last season $75, but owing to the enormous quantities being sold we will this season list the same at **$50.00**

Model 9. Comprises the No. 4 Speedometer and a 4-inch 8-day Chelsea Clock, the best automobile clock on the market; both mounted on a handsome brass base, and equipped with electric light **The most attractive combination possible.** Price, ... **$75.00**

Model 11. Something entirely new in speedometer construction. A 4-inch instrument similar in design to the Model 4, but will indicate speed from zero to 60 miles; is equipped with both season and trip register and automatic resetting device. The scale is three times the length of that used on any other speedometer, and which makes it the most easily read indicator on the market. The construction is of the costliest kind, every part is of the same high standard used in all our instruments and includes jewel bearings. **This instrument is destined to be the quickest selling, most attractive, most satisfying of all instruments, regardless of price.** Price, . . **$25.00**



Model 11, $25.



Model 12, $15.

Model 10. A combination of the above described Model 11 speedometer and 8-day Chelsea Clock, mounted on a brass base, equipped with electric light. Price, . . **$60.00**

Model 12. The handsomest little instrument ever produced; will indicate speed of 50 miles; has enclosed season odometer with capacity of 10,000 miles. Is in every feature the same as our $25 instrument of last season, with the exception that it is made with a 3-inch dial. **It is a thoroughly high grade instrument, better than any other speedometer, as a trial alongside any other make will prove.**

All Models to be equipped with the famous Stewart Flexible Shaft and Swivel Joint, and all are **covered by an ironclad 5-year guarantee.** Send for our 1909 catalog.

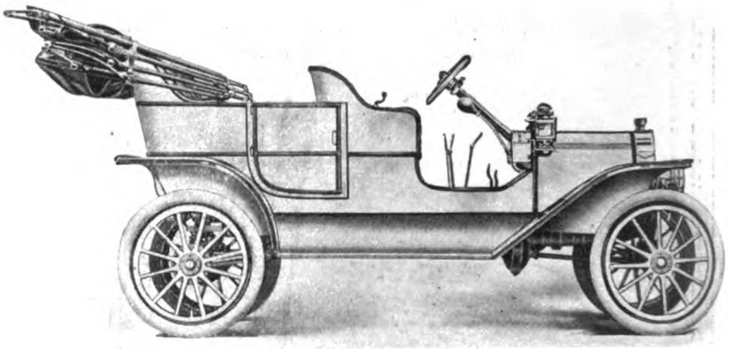
STEWART & CLARK MFG. CO. 509 Diversey Blvd. Chicago, U. S. A.

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FORD FOUR-CYLINDE TOURING CA

$850.0(

When you can couple the Ford guarantee—the guarantee of the best known automobile manufacturer in the world, whose imprint is already on more good cars than any other concern has made or promised—with the lowest price ever announced for a Touring Car, it's a mighty safe buy.



MODEL T TOURING CAR, $850.00
High Priced Quality in a Low Priced Car.

Here is the first and only chance ever offered to secure a touring car at a reasonable price, a price any man can afford to pay. It is a big, roomy, powerful car, of handsome appearance and finish, at a price lower than you are asked to pay for any four cylinder runabout, excepting the "FAMOUS FORD." This car sounds the death knell of high prices and big profits.

When this now famous FORD runabout was announced other manufacturers, despairing of being able to compete, knocked—"A good car could not be built at the price, much less sold." Every knock was a boost. With 20,000 cars Ford proved the car was right. Ford's financial standing to-day proves the price was right. And the knocking that will be done on this new car will be silenced in the same fashion.

Henry Ford promised three years ago to build a high grade touring car, and sell it at a heretofore unheard of price, and now just as surely as every claim made for the small car was made good, just so surely has Ford made good this promise.

The Model T is that car, the car that was promised, a four cylinder, 20 horse power touring car—a roomy, commodious, comfortable family car, that looks good, and is as good as it looks.

This is no imitation car. Henry Ford has never found the need to copy, and the fact that he has never designed a failure is your security that in the Model T touring car Ford continues to be two years ahead of any car manufactured to-day.

We have no high sounding name with which to charm sales. It's the same old name, "plain as any name could be"; it's just "FORD," but it has the advantage of being already on 20,000 cars (real automobiles) that have "delivered the goods."

You know that Henry Ford can build a better car for less money than any other manufacturer on the face of the earth. You know it because he has always done it, and that is your guarantee of his ability, and your security in dealing with him.

Our organization is made up of that same force of men that you have learned to know as being connected with the manufacture and sale of an honest product. It's the same old Company that has been doing business right along; the same old successful organization and plant.

Not having anything new but the car, and because it is unnecessary for us to spend money to solicit confidence in our company (that being already secured by past performances) we can devote all our time and money to taking care of the orders for the car that people have actually been waiting for—a family car at an honest price.

The Model T is a four cylinder, 20 horsepower car of graceful design, powerful in appearance and reality, and of sturdy construction. It is not a new car in the sense that it has been conceived, designed and built all in a few weeks. Mr. Ford started on the car three years ago. Two years were spent in designing, experimenting and research. A year ago the first cars were shown, and for twelve months have been in constant service.

These experimental cars have been run under every conceivable condition. All last winter they were tried on the snow and slush covered country roads—all summer they have worked on the hills, on the sand and mud roads in good and bad weather.

It is a new car, however, in the sense that it is not an old chassis with a new body or an old engine in a new chassis, but it is a new car built throughout to meet the requirements of a family car. The engine is new (20 horsepower), cylinders cast in one block with top removable so that the cylinders, pistons, valves, etc., are get-at-able. The chassis is new, a hundred inch wheel base and 30 inch wheels. The transmission is of new de-

FORD—THE CAR THAT LASTS LONGES

Ford Motor Company

Member American Motor Car Mfrs.' Assn., New York.

259 PIQUETTE AVENUE, DETROIT, U. S. A.

RETAIL BRANCH STORES:

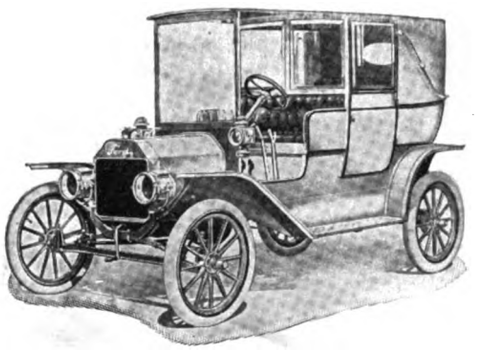
147-149-153-163 Columbus Ave. BOSTON
1721-23 Broadway NEW YORK
727 Main St. BUFFALO
Broad and Buttonwood Sts. PHILADELPHIA
1444 Michigan CHICAGO

CANADIAN TRADE supplied by Ford M

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20 HORSEPOWER FIVE PASSENGER FORD

f. o. b. Detroit



MODEL T TOWN CAR, $1,000.00
High Priced Quality in a Low Priced Car.

Any car now selling up to several hundred dollars more could, if built in the Ford factory from Ford designs, by Ford methods and in Ford quantities, be sold at the Ford price if the makers would be satisfied with the Ford profit per car.

sign (planetary, of course), and altogether silent; $150,000 worth of new machinery and tools were added before we could start to build.

Vanadium steel, the strongest, toughest and most endurable steel ever manufactured, is used throughout the entire car. The only reason every automobile manufacturer is not using Vanadium steel is either that they cannot afford to or do not know how. To use it in Fords required two years of experimenting, and an expenditure of $200,000, plus the increased price of steel.

We could have announced the car last year; we wanted to prove it in actual service; held it a year when we knew people were anxious to buy. Now we know the car is right. It's built for the sort of use the average buyer gives a car, and no car made, no matter what the price, can excel this Model T in practicability and service.

Announcing this car at this time we are not taking time by the forelock—we are not announcing with the intention of waiting for orders before commencing to build. October 1 will find us delivering cars, not promises. Not a line of advertising appeared, not an order accepted until we had the completed car and knew exactly when we could start to fill orders. Our dealers have guaranteed us an enormous demand, however, so that an immediate order is advisable. While we do not know how many of these cars we will build in the next twelve months, the price per car is based on building 25,000 cars. We will not build any less—we may build more. We have manufacturing facilities for 100 complete cars per day. A careful study of conditions and of reports from our selling force indicates that even this large capacity will be insufficient. So wire your order—now is the proper time to buy.

SPECIFICATIONS.

MOTOR—Four cylinder, four cycle, vertical, 20 horsepower; cylinders cast in single block, with water jackets and upper half of crank case integral. Water jacketed cylinder head removable, offering easy access to all interior parts of engine. Pressed steel lower half of crank case extends to form lower oil tight housing for flywheel, transmission, magneto and universal joint.

TRANSMISSION—New design Ford spur planetary; no internal gears. Silent at all speeds. The quietest, easiest transmission ever manufactured.

IGNITION—By Ford low tension magneto generator, an integral part of the engine direct driven by engine shaft; no gears, belts, brushes or contact points. Simplest and most positive system of ignition.

CONTROL AND DRIVE—All forward speeds by foot lever, reverse by hand lever, transmission brake by second pedal, emergency brake on rear hubs by second hand lever. Drive on left side, throttle and spark control under steering wheel.

WHEELS—Thirty inch artillery wood type, pneumatic tires, 3 inch front, 3½ inch rear; tread, 56 inches; wheel base, 100 inches; weight, 1,200 pounds.

GASOLINE CAPACITY—Ten gallons, enough for 225 miles.

EQUIPMENT—Three oil lamps and tube horn. With body ironed for top.

BODIES—Touring car as shown and now ready for delivery; also supplied in landaulet, taximeter cab, coupe and town car style. Runabout and roadster.

PRICE—On touring car, $850.00; landaulet or taximeter, $950.00; coupe, $950.00; town car, $1.000.00 F. O. B. Detroit.

DELIVERY—Beginning October 1 on touring cars; November 1 on other styles; runabout and roadster for spring delivery.

We want some more dealers—live, wide-awake hustlers. If you are that kind of a man, even tho not now a dealer in automobiles, there's a chance to make money with the Ford line right in your own home town. Write to-day for full particulars, for we are ready to make contracts for 1909.

ND COSTS LEAST WHILE IT LASTS

Ford Motor Company

Member American Motor Car Mfrs.' Assn., New York.

259 PIQUETTE AVENUE, DETROIT, U. S. A.

Euclid Ave., S. E. CLEVELAND | 268-270 Jefferson Ave. DETROIT | 318-320 E. Eleventh St. KANSAS CITY | 3669 Olive St. ST. LOUIS | 1556 Broadway DENVER | 19th Ave. and E. Mercer St. SEATTLE

npany of Canada, Limited, Walkerville, Ontario.

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50 H. P. SIMPLEX $5,750

Licensed under Selden Patent and guaranteed for one year.

WINS The 24-Hour Race at Brighton Beach

Setting 16 New World's Records

Beating the previous world's records 23 hours in the 24 and beating by the tremendous margin of 70 miles, the previous best 24 hour performance of any car in the world.

One and one-half hours before the end of the 24 hours, the Simplex, driven by Lescault and Robertson, had passed all previous records for the 24 hours. At the conclusion of the race, the winning Simplex was in perfect condition, not a bolt, nut or screw being out of place. The car was capable of immediately repeating its performance, and if pushed, in considerably faster time. Driven by Lescault, the Simplex made in the 5th hour the record run of 57 miles, beating its own previous world's record of 56 miles in one hour, made during the last 24 hour race.

Hour.		Previous Record.
1	Simplex	55 / 52
2	Simplex	107 / 101
4	Simplex	198 / 193
5	Simplex	255 / 245
6	Simplex	302 / 294
7	Simplex	350 / 332
8	Simplex	401 / 380
9	Simplex	454 / 423
10	Simplex	508 / 465
11	Simplex	559 / 515
12	Simplex	612 / 565
13	Simplex	658 / 616
14	Simplex	710 / 664
15	Simplex	761 / 705
16	Simplex	810 / 755
17	Simplex	856 / 803
18	Simplex	903 / 849
19	Simplex	949 / 883
20	Simplex	992 / 928
21	Simplex	1041 / 972
22	Simplex	1086 / 1019
23	Simplex	1131 / 1060
24	Simplex	1177 / 1107

Palmer & Singer Mfg. Co.

1620-22-24 Broadway, New York. **1321 Michigan Ave., Chicago.**

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FORM NO 518. 3-08 50M.

CABLE ADDRESS:
DACHOUSE, NEW YORK

WYCKOFF, CHURCH & PARTRIDGE

GENERAL EASTERN AGENTS FOR

The Stearns
Best of the World

OPERATING THE W. C. P. SUPPLY HOUSE

COMPLETE GARAGE AND REPAIR DEPTS.

1739 BROADWAY — BROADWAY AT 56TH STREET — 1743 BROADWAY

TELEPHONE: 8400 COLUMBUS

NEW YORK, September 26, 1908

National Sales Corporation
296 Broadway
New York City

RECEIVED
SEP 28 1908
NATIONAL SALES CORPN.

ANSWERED

Gentlemen:

After a thorough test on the road of the Peugeot chains which you sent to me to use in the Twenty-four Hour Race, I take pleasure in informing you that these chains went through the race without adjustment and without attention of any sort. They were in every way perfectly satisfactory, and I highly recommend them to anyone wishing to procure a satisfactory chain.

Thanking you for your kindness in affording us an opportunity to use them, beg to remain

Yours very truly,

WYCKOFF, CHURCH & PARTRIDGE

By Guy W. Vaughan

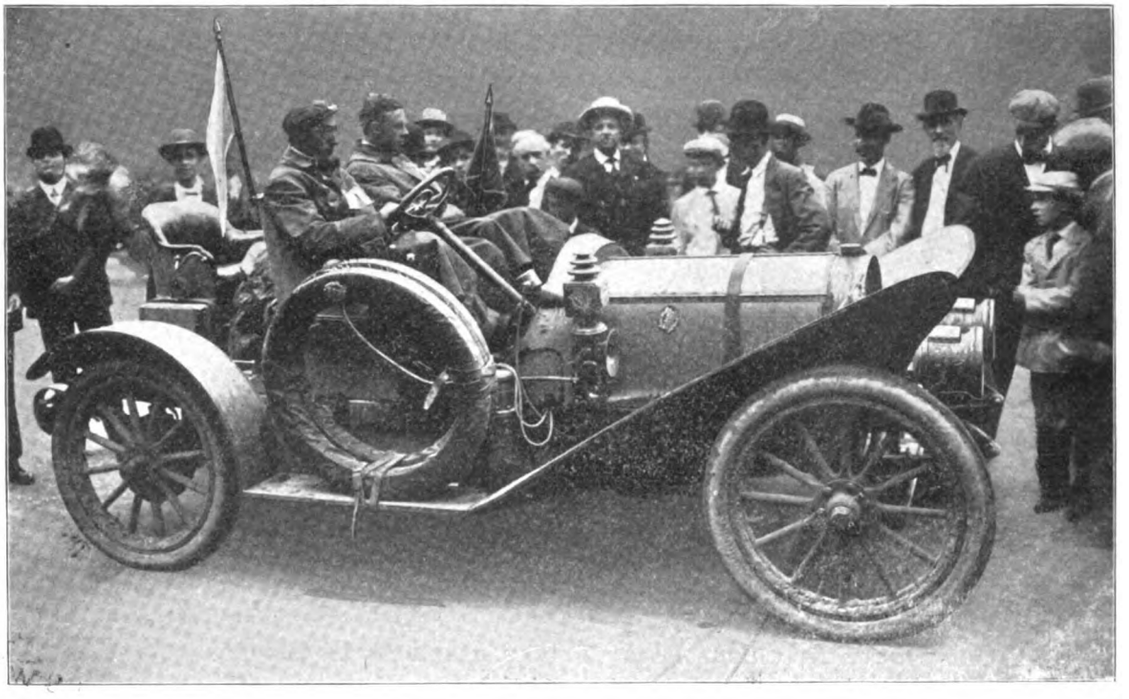
Machine Shop Superintendent

GWV/B

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ANOTHER RAMBLER RECORD

One Thousand Miles in Eight Days and Every Vital Part Perfect



RAMBLER ROADSTER AT CONCLUSION OF EIGHT DAY RUN.

EVERY vital part of the Rambler 1908 Roadster Model 34-A was in perfect condition at the finish of the great 1,000 mile, eight day reliability contest of the Kansas City Automobile Club. Second place was awarded to the Rambler—because of a six points penalty.

Only six points penalty—a remarkable record.

Seven days run of the eight showed a perfect score.

A hub cap was torn off when the roadster took the ditch in an exciting dash through a mire, filled with rocks, mud and disabled automobiles. That cost us three points, but the Rambler got through.

Then a spring shackle turned when the car took the ditch to pass another disabled car. That cost us three points more.

Forty-one cars were entered. Only twenty finished. Not one, selling within $700 of the cost of the Rambler, finished without a breakdown and all the high priced cars, driven by expert drivers, were there. The Rambler engine was running better at the finish than at the start.

There are certain mechanical features of the Rambler which made this great performance possible. If you care to know what these are, drop us a postal and we will be glad to send full details at once.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, October 8, 1908. No. 2

ROYAL HAS A REORGANIZATION

Creditors' Committee Assists Company to Start Again with Ample Capital—Producing New Models.

Endeavors to save the Royal Motor Car Co., of Cleveland, O., from dissolution, following the company's going into the hands of a receiver last fall, have been successful to the extent that a complete reorganization is announced as being effected. F. A. Scott, acting for the Superior Savings & Trust Co., of Cleveland, the corporation appointed as receiver, has obtained from the creditors' committee an arrangement whereby the reorganized company will resume activity with ample and unencumbered resources and plenty of working capital.

By considerable effort the assets of the company have been preserved with comparatively little loss, and at the same time the agency organization and good will have been carefully held together. Business can thus be resumed under the advantages of the company's old footing in the industry.

Under a permission order from Judge Taylor, of the United States court, the receiver has been able to go ahead and produce sample cars of the model it is proposed to offer for 1909. The agents throughout the country who have been handling the Royal car, have been advised of the success of the reorganization and that demonstrating cars will soon be shipped.

Seeks to Sell Logan Property.

A petition for authority to sell the property of the bankrupt Logan Construction Co., of Chillicothe, O., has been filed by the trustee of the estate with Elijah Cutright, Jr., the referee in bankruptcy. The hearing on the petition takes place October 10 at the referee's office in the Ross County Bank building, at Chillicothe. An appraisal of all the property except the book accounts shows machinery, $3,186.00; office fixtures, $416.25; stock, $15,895.55, and real estate, $18,736.00, making a total of $38,233.80, with judgment liens on the real estate amounting to $760.00.

Haas to Develop Standard's Truck.

Although it has not been generally known in the trade, the Standard Roller Bearing Co., Philadelphia, Pa., for some time has been experimenting with a combination gasolene-electric truck. The services of H. J. Haas, formerly superintendent of the E. R. Thomas Motor Co., of Buffalo, N. Y., have now been secured to carry out its development. The design is based on a system, the basic patents for which are owned by the Standard company, and the formation of an independent company, to be known as the Standard Gasolene and Electric Truck Co., to handle this branch of the business, is contemplated.

Friswell Made Factory Manager.

Arthur E. Friswell has been made factory manager of the Hartford Rubber Works Co., at Hartford, Conn., to fill the vacancy caused by the death on September 22, of Valentine B. Lang, who in addition to his duties as vice-president of the company, had charge of the factory. Past experience in a similar capacity with the Mechanical Fabric Co., of Providence, R. I., before going to Hartford, well qualifies Friswell for his new duties.

Mooers with Cleveland Auto-Cab.

Louis P. Mooers, engineer and designer, instead of joining the staff of the Aerocar Motor Co., of Detroit, Mich., as reported recently, has gone with the Cleveland Auto-Cab Co., which has its offices in Cleveland and its plant in Geneva, Ohio. Mooers will be in charge of a large part of the work at the latter place.

Bailey Resigns from St. Louis Car.

Theodore P. Bailey has resigned as general manager of the automobile department of the St. Louis Car Co., of St. Louis, Mo., makers of the American Mors. His successor to the place has not as yet been appointed.

SHOW SPACE IN HEAVY DEMAND

Allotments for Forthcoming Exhibitions are Being Made—Car Makers Crowd Chicago's Facilities.

Show matters brought many prominent tradesmen to New York City this week, to attend the sessions of the National Association of Automobile Manufacturers, the American Motor Car Manufacturers Association, or the Association of Licensed Automobile Manufacturers, all of which have show and business meetings scheduled. A general meeting of the N. A. A. M. was held on Wednesday morning at which all of the directors were present. This was followed by a meeting of the show committee in the afternoon, at which allotments of Chicago show space to the automobile manufacturers were made.

For the Chicago show there were 95 manufacturers of cars who desired exhibition space, and of these, 84 were given an allotment, the other 11 having been late in making application. The latter will be taken care of in the Coliseum basement, however. The space alloted takes in the main floors of the Coliseum, the Annex, and the Armory, as well as a large part of the Coliseum basement. The Motor and Accessory Manufacturers, Inc., undertakes the allotment of the gallery space to its members.

Mora Heads a New Company.

Real automobiles, with gasolene motor and all the mechanism, but made in juvenile sizes at a low price, will constitute the product of a newly organized concern of which S. H. Mora, of the Mora Motor Car Co., is president. The Child's Automobile Co. is the name adopted, and the company will use the factory building on Siegrist street, Newark, N. Y., formerly occupied by the Mora factory. The cars will be small, single cylinder affairs of a so-called "pony" type, to sell for from $150 to $250, and are intended for children.

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In the Retail World.

C. M. Atherton has opened an automobile establishment in Sheldon, Ia. Garaging and repair facilities are a feature.

Peter Wood has opened a garage at 23 Eighth avenue, Newark, N. J. He will conduct a general storage and renting business.

Yount & Blincoe, of Sedalia, Mo., have closed their automobile garage. The business affairs of the concern are being wound up.

The Packard Motor Car Co. has opened a branch office at 14 Branford place, Newark, N. J. Gilbert V. Burdett is the local manager.

William Stout & Co. is the style of a new firm which has "opened up" at Irvington, N. J. The firm will engage in a garage and repair business.

To handle the Ford in Utica, N. Y., a new concern, called the Ford Sales Co., has been formed. Frank E. Henabray and A. P. Howarth are the owners.

The Independent Automobile Co. has been formed in Indianapolis, Ind., to handle the Oakland car. The company's salesroom will be located at 216 East Vermont street.

The Moon Motor Sales Co., of which C. A. Duerr is the head, has leased new quarters at 1781 Broadway, New York City. The concern will handle the Moon car, made in St. Louis, Mo.

"Distress warrants" have been issued against the Augusta Motor Co., of Augusta, Ga., by R. E. Heath, who claims that the concern is back in its rent. Seven automobiles were attached.

The Penn Motor Car Co., of Philadelphia, Pa., expects to move into a large three-story brick building at the northwest corner of Broad and Cherry streets early in October. The rear part of the building will be used for garage and repair purposes, while the front will be fitted as show rooms, business offices and reception rooms, with special rooms for the ladies.

Duerr in Receiver's Hands.

Bankruptcy proceedings against Chas. A. Duerr & Co., 2182 Broadway, New York City, have been instituted by Julius O. Foote, attorney for three of the creditors. The petition alleges that the corporation is insolvent, and that preferential payments have been made. Judge Holt appointed Lindsay Russell as receiver. The nominal assets have been given as $60,000, though their actual value has been estimated at $40,000, while the liabilities, according to Foote, are about $100,000. The concern is indebted to two of the petitioning creditors, the Firestone Tire & Rubber Co., and the Hartford Rubber Works Co., to the amount of $401 and $251, respectively.

Duerr is a pioneer New York agent and has the distinction of being one of the earliest defendants named in the prosecution of the Selden patent, incidental to his handling the Ford at that time. Latterly he has had the Royal agency. The corporation was organized in May, 1903, with a capital stock of $5,000, which was increased to $30,000 in December, 1906. Last January the company acquired the lease and assets of the Metropolitan Auto Co., and has since made garaging and storage a large feature of the business. About 100 cars are using the garage, under contracts of from three months to three years, each paying $30 per month, making a monthly income of about $3,000. It is thought that the receiver will endeavor to continue the company's garage service in order to save many of the dependent assets.

Bendix Seeks Loan in Logansport.

In its efforts to get started in Logansport, Ind., the Bendix Automobile Co. has asked for a loan of $75,000 cash, tendering as security a large block of preferred stock. Members of the Land & Improvement Co., a newly organized Logansport association which is seeking to encourage manufacturing concerns to locate in the city, have pledged $20,000 of the amount and hope to arouse enough "public spirit" to get the rest.

To Make Electric Vehicles in Toledo.

Basing expectations of success on the merits of a new storage battery invented by A. F. Clark, a new concern, to be known as the Toledo Electric Vehicle Co., has been started in Toledo, O. It has been incorporated at $50,000, with Willard E. Allen, A. F. Clark, Frederick B. Willard, E. J. Hall and J. W. Schaufelberger as the incorporators. A factory building for electric runabouts has been secured at Collingwood and Delaware avenues.

Kissel Kar Agency for New York.

New York City representation for the Kissel Kar has been arranged, the Apthorp Motor Car Co., 214 West Eighteenth street, having closed a contract with the Kissel Motor Car Co., of Hartford, Wis., to handle the latter company's three models in the metropolis and its vicinity. F. S. Dickinson is president of the Apthorp company, which was but recently organized.

Strawbridge Succeeds Woods.

James B. Strawbridge has been elected general manager and treasurer of the Cleveland Motor Car Co., of New York City. He succeeds Walter A. Woods, who resigned last July to organize an independent enterprise.

Paying the Third Pope Dividend.

Checks for the payment of the third dividend of 25 per cent. to the creditors of the Pope Mfg. Co. have been sent out. It is planned to pay the creditors in full and have the reorganization in effect before November 15.

The Week's Incorporations.

Lansing, Mich.—Auto Body Co., The increases its capital from $25,000 to $150,000.

Clute Brothers' automobile business in Cohoes, N. Y., has been sold to the Campbell & Clute Machine Co., It will continue without material change of policy.

Cincinnati, O.—Eagle Automobile Co., The, under Ohio laws, with $10,000 capital. Corporators—F. L. Rhau, Henry Kressell, John Murphy, Fred L. Hoffman and C. O'Hern.

Branford, Conn.—Shore Line Garage Co., The, under Connecticut laws, with $10,000 capital. Corporators—John T. Manson, Minotte S. Chatfield and Winthrop G. Bushnell, all of New Haven, Conn.

Chicago, Ill.—Multi-Unit Gas Engine Co., under Illinois laws, with $25,000 capital; to manufacture and deal in motors and motor vehicles. Corporators—James J. Maloney, A. C. Garey, William L. Simonton.

Oklahoma to Rebuild Old Cars.

Even if Oklahoma City, Okla., cannot have a full fledged automobile manufacturing plant, it will have the next best thing, in an establishment which will devote itself to buying old cars and rebuilding them for the market. The Auto Sales Co. is arranging for large purchases of decrepit machines, which after being rebuilt, refurbished and decked in dashing colors, will be sent forth to compete with newer but no more sprightly models.

Roberts to Move to Sandusky.

Removal from Clyde to Sandusky, O., has been decided upon by the board of directors of the Roberts Motor Co., which at present has its plant at the former place. A large number of the employes, with their families, will follow the factory to its new location.

Lillibridge Files Bankruptcy Proceedings.

Ray D. Lillibridge, formerly president of the Rees Company, of New York City, an automobile storage concern, has filed a petition in bankruptcy, with liabilities of $12,431. The petitioner has been identified with the trade in agency and advertising relations for some time.

Spiers Resigns from the Standard.

John C. Spiers, factory manager of the Standard Roller Bearing Co., of Philadelphia, Pa., has resigned. E. M. Eveland has temporarily assumed the management of the factory, in addition to his other duties.

Morrison Seeks Relief in Bankruptcy.

Albert E. Morrison, of Boston, Mass., at one time with the Morrison Automobile Co. and at present manager of a Boston taximeter cab company, has filed a voluntary petition in bankruptcy. He has liabilities of $3,070, and no assets.

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EXPORTS GAIN IN FEW MARKETS

August Shows Increases in Only Four Divisions—Record for the Eight Months Given in Detail.

Comparison of the export figures for the month of August, while showing a considerable gain over the corresponding month last year in the markets of Germany, British North America, Other Asia and Oceania, and Other Countries, nevertheless indicates a general falling off in the other outlets. The total for the month is $390,870 as against $506,522, while the number of machines exported was 156, against 256 for August of last year. The traffic in parts also had a reduction, from $69,054 to $44,074. Next to British North America, the biggest purchaser for the month was the United Kingdom, with $125,904, somewhat less, however, than the $129,300 of the previous August. France bought $15,565, as compared with $45,385; Mexico, $15,740, as against $34,488, and West Indies and Bermuda $6,055, as against $56,372. The gain in British North America was from $135,905 to $173,768; in Germany from $8,093 to $14,508; in Other Asia and Oceania from $3,656 to $10,459, and in Other Countries from $1,950 to $2,736.

For the eight months concluding with August, the United Kingdom is the leading customer, with a total of $1,491,465 as against $1,464,470 for the same period last year. Gains are also shown in Other Asia and Oceania, and in Other Countries, the former having a total of $98,732 as against $49,484 last year, and the latter $24,327 as against $14,981. The total for the period, however, manifests a decline, the combined purchases amounting to $4,004,811 as against $4,752,012 for the eight months of 1907. The August increase in sales to British North America was not sufficient to offset the declines in the previous months, so that the total for the period was $866,604 as against $1,036,291 last year.

The summary in detail is as follows:

	August		Eight Months Ending August		
	1907	1908	1906	1907	1908
Automobiles, and parts of	.....	.....	*$2,356,110	.....	.....
Automobiles	$437,468	$346,796	‡$906,892	$4,263,437	$3,569,962
Parts of	69,054	44,074	‡73,418	488,575	434,849
Exported to—					
United Kingdom	129,300	125,904	952,543	1,464,470	1,491,465
France	45,385	15,565	271,286	528,253	526,323
Germany	8,093	14,508	107,675	152,936	138,039
Italy	436	93	234,997	241,536	219,229
Other Europe	18,011	4,796	171,255	251,245	169,350
British North America	135,905	173,768	656,343	1,036,291	866,604
Mexico	34,488	15,740	484,865	487,099	202,774
West Indies and Bermuda	56,372	6,055	201,441	209,722	111,578
South America	25,050	6,329	84,409	153,540	86,179
British East Indies	7,239	2,147	23,545	26,963	19,707
British Australasia	40,637	12,770	87,957	135,492	50,504
Other Asia and Oceania	3,656	10,459	44,535	49,484	98,732
Other Countries	1,950	2,736	15,569	14,981	24,327
Total	$506,522	$390,870	$3,336,420	$4,752,012	$4,004,811

* Figures are for six months, January to June, 1906. † Number not started prior to July 1, 1906. ‡ Figures are for July and August, 1906.

Northern Merger is Completed.

Absorption of the Northern Motor Co., including the factories at Detroit and Port Huron, Mich., by the Everitt-Metzger-Flanders Co., of Detroit, has finally been accomplished, the capital stock of the latter concern having been raised from its temporary $500,000 mark to $1,000,000 to consummate the deal. The Detroit plant will be used for making replacement parts not only for all future E-M-F cars but for all past models of Waynes and Northerns, while the Port Huron plant will supply axles for the new product. In connection with the sale of a large part of the E-M-F output by the Studebaker Automobile Co., E. Le Roy Pelletier is to handle the advertising of all the Studebaker models.

Selden Celebrates a Christening.

The Selden Motor Vehicle Co., of Rochester, N. Y., gave a luncheon to its representatives and sales agents on the 30th ult., at which Louis Caswell, the new sales manager, was the guest of honor. George B. Selden, president of the company, related some of the history in connection with his own part in the industry, in addition to which there were a number of other speeches and a christening of the 1909 model.

Engineers Have Employment Bureau.

Manufacturers seeking additions to their technical staffs are now given the opportunity of consulting an information bureau which has been established by the Society of Automobile Engineers and in which will be kept the names and qualifications of members seeking new positions. For the present the bureau will have its headquarters with the secretary of the society, at 231 West 39th street, New York City.

Regal and Oakland are Members.

The Regal Motor Car Co., of Detroit, Mich., and the Oakland Motor Car Co., of Pontiac, Mich., have been admitted to membership in the American Motor Car Manufacturers' Association. The latter company will show at the Grand Central Palace.

YEAR'S LOSS BY GARAGE FIRES

Insurance Company's Figures Approximate Total of $2,000,000—Careless Handling of Gasolene Largely Responsible.

Preying upon both the trade and the private owner, but particularly upon that portion of the trade engaged in the garaging of cars, fire has during the past year caused recorded losses approximating $2,000,000, while the losses that have not been made a matter of public record doubtless aggregate hundreds of thousands of dollars more. As showing how great is the fire hazard on garages and automobiles from an insurance standpoint, one of the leading New York fire insurance companies has prepared a list of the more important losses in such risks in the United States from September 18, 1907, to September 22, 1908. This forms a record of an even hundred fires, with the damage in each instance ranging from $500 to $500,000. The total shown for the period is $1,893,700, comprising damages to buildings and equipment, and to cars. Some 40 per cent. of the total number of fires occurred in public garages.

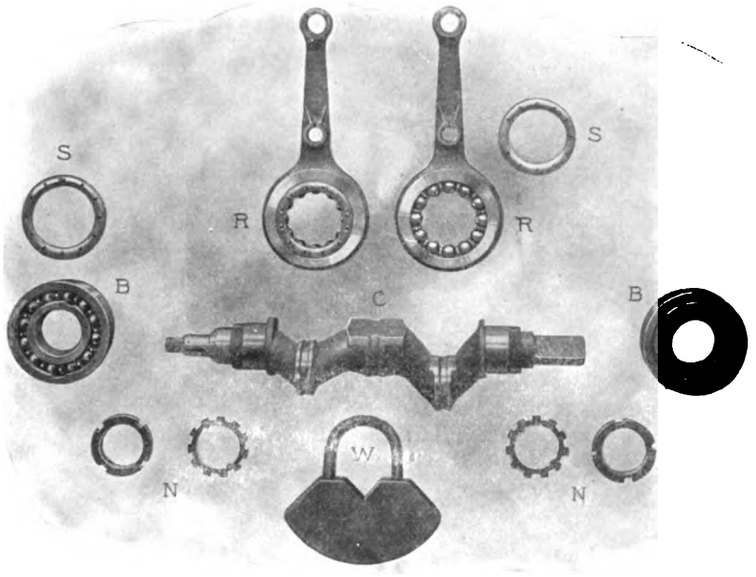
Gasolene handled in a more or less careless fashion is the preponderating basis of damage, a very large proportion of the causes assigned having to do with the accidental ignition of the fuel or its vapor while replenishing cars or as a result of leaky tanks. Some of the fires have had an incendiary or a spontaneous combustion origin and in at least one case lightning was responsible for a conflagration. Another big fire was due to an acetylene gas explosion; but such instances are only a sprinkling among the more regular and monotonous repetitions of the unexpected flaming up of gasolene.

In the details of the manner in which the fuel or vapor became ignited it is shown that a great part of the total number of fires were started while fuel tanks were being filled—a proof of the dangers that exist in connection with this operation if the greatest care be not exercised in extinguishing lamps, stopping the engine, prohibiting nearby smoking and the taking of other precautions. Even the manipulation of electric light wall switches giving a long spark or flash when the circuit is broken, presents a danger, while the testing of dry cells near open gasolene was in one instance the cause of the place going up in flames.

That the insurance rates asked on many risks are excessive may seem very apparent to the would-be insurer, but in the face of the facts presented by the record for the year, the insuring companies have reason to regard the fire hazard in the automobile business as being far above the normal. In many localities the rates are being raised because of the heavy recent losses on garage risks.

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The Simplicity of
THE WHITE STEAM CAR



In the principles of construction—as in the method of operation—the White Steam Car is simpler than any other type of automobile. Consider, for example, the design of the White crank-shaft and compare it with the corresponding member in other cars. In the above illustration is shown the crank-shaft of the 1909 White engine and all the parts attached thereto. The crank-shaft, C, is a short one-piece forging of tool steel with but two main bearings, B,B. These bearings may be removed by taking off the lock nuts and lock washers, N,N. The two connecting rods R,R, are one-piece forgings fitted with ball bearings, as shown. With the addition of the counter weight, W, the crank-shaft is complete.

In all accepted types of gasoline engines there are from three to seven main bearings. As is well known, when any shaft has more than two bearings, there is the ever-present danger that they will work out of alignment. Moreover, the crankshaft of the gasoline engine has either four or six connecting rod bearings, which are invariably only plain bearings instead of ball bearings. It will thus be seen that there are only from one-half to one-third of the number of parts used in connection with the White crank-shaft as are used inconnection with the crank-shaft of a gasoline engine.

Next week we shall compare the two valves of the White engine with the eight or twelve valves of the gasoline engine.

Write for circular containing details of the new White cars.

THE WHITE COMPANY

CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.
PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.
SAN FRANCISCO, Market St., at Van Ness Ave.
ATLANTA, 120-122 Marietta St.

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Winning the Carriage Trade.

As has been pointed out frequently during the past two or three years, the carriage making industry and more particularly the carriage dealer is constantly growing into closer accord with the automobile industry, its spirit and its aims, and is coming to share more seriously its burdens. Were visible confirmation of this fact required, no more convincing evidence could be brought forward than is obtainable at the fifteenth annual exposition of the National Carriage Dealers' Protective Association which is being held at the Grand Central Palace, New York City, this week. Not alone is it true that along side the forty-odd exhibits of finished carriages are the exhibits of nearly half as many manufacturers either of finished automobiles or automobile components designed especially for consumption by the carriage trade. The attitude of respect for and interest in the automobile manifest by the attending dealers in this purely trade gathering is in itself impressive and expressive of a movement which is destined to be of more than passing importance to the newer industry.

Another side of the matter is revealed in the attitude of the automobile makers who have placed their representatives on the floor. Their respect for the carriage dealer and in many instances the earnestness with which they are seeking his patronage is, perhaps, significant of a new order of things in the methods of marketing the motor vehicle. The average repository of the carriage dealer, in town or country is greatly at variance with the average automobile salesroom. The spirit which pervades it and the attitude of its tenants with respect to business is equally foreign to the air which pervades the typical automobile establishment. Regardless of the apparent disparagement between the two lines, the fact remains that the carriage dealer is a merchant of recognized standing in the community and that he handles a staple line and deals with a class of buyers with whom the automobile maker is in many instances particularly anxious to get in touch.

Considered in the broadest possible spirit, it is difficult to under-estimate the advantages to be derived from marketing the automobile in a way which is calculated to reach the great masses of buyers on the plane of their understanding. The dashing, extravagant phase of automobiling with its appeal to certain classes of customers must be considered as distinctly apart from the soberer field wherein are considered only the matters of dollars invested and dollars earned. The commercial vehicle movement has its strongest feature just at present in the service which the passenger automobile can be made to perform where transportation is a daily necessity. This is a harder market to exploit than that of the purely recreative vehicle and therefore one which must be handled with combined economy and aggressiveness. For this purpose the carriage dealer is attaining a recognized standing among the makers of a certain farseeing class, and there can be no question that his experience and ambition are destined to be of great value to them.

Steering Gear Considerations.

Instructions as to the handling of cars, particularly on the garage floor are never considered complete without the precept that the steering gear should not be actuated from the hand wheel except when the machine is moving under its own power. Otherwise, it is stated, and with perfect truth, the heavy load thrown upon the parts when the front wheels are swung is apt to injure them to a serious extent. Taken in connection with a broad criticism of steering gear design in general which is printed in another column, opportunity is opened for reflection as to whether the continued iteration of this caution is not an acknowledgement of unnecessary weakness on the part of the average mechanism. Not that its inability to withstand unnecessary stresses applied in the reverse direction is absolute proof of inefficiency, but that it may indicate a condition which is, to say the least, undesirable in what is beyond question the most important mechanical system in the vehicle.

On a purely theoretical basis, the rolling action of the front wheels when swung; the fact that the only strains upon the connecting linkage are those injected by roadside obstructions; and the consideration that the inevitable "spring" of the rods. together with the give of the elastic connections—should be sufficient argument in favor of a mechanism no heavier than that commonly employed. At the same time it must be conceded that these are not the only strains to which the steering gear is subject; that the motion of the chassis over the axle, the vibration of the entire fabric and the errors due to possible disalignment of parts, subject the gear to loads which are beyond calculation, and that even the stresses commonly reckoned with, may at times increase to utterly disproportionate amounts. Hence it is open to question whether the average steering gear really is heavy enough for the work which must be thrown upon it in actual service under extreme conditions.

The old-time fallacy of ascribing every serious accident suffered when running at high speed to some defection of the steering mechanism is pretty well exploded. At the same time there can be no question that the number of accidents occurring from year to year, which are actually blameable to this source is far too great to conduce to the peace of mind of the nervous passenger in the swift-moving car.

After a period of comparative security lasting over several years, makers at length arrived at the conclusion that the average dimensions of the brakes were too small for the duty they must endure. Consequently a general increase in brake sizes has occurred which is equally to the credit of the

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builders and the safety of the owner. It may be that the near future will witness an equally general strengthening out of the steering system. Certainly such a change would add to the mental security of the driver, if not the physical, while in the matter of expense and weight added to the car, it would involve little or no serious complications.

Minimizing the Fire Risk.

Nearly two million dollars' worth of damage to the industry brought about in the brief space of one year by fire losses, and in many individual instances caused directly or indirectly by the presence of gasolene vapor in and about cars or garages, is a record too serious to be ignored. Despite an abundance of legal measures restricting the handling of the volatile fluid, despite the natural precautions of wise property owners, an average of more than eight fires of this sort are reported monthly. What minor, unreported losses occur, and how far they may go to swell the actual total is beyond conjecture. Certainly the figures write a sober lesson of the need of caution in the housing and maintenance of cars.

There are absolutely no phases of the automobile fire risk which have not been investigated or which may not be guarded against successfully, save those which arise from outside sources of conflagration. For the storage of gasolene, ample provision is made by the makers who specialize in the construction of tanks and reservoir systems of various approved patterns. For the handling of the fluid while replenishing the tanks of cars, equally safe means are provided. Modern garage buildings are designed with a view to the riddance of the perilous fumes, heating and lighting appliances are protected, and due provision is made for the absorption of waste oils and fuel drippings. Despite these precautions, however, the careless attendant and the ignorant floorman will persist in "taking chances," in washing down motors with gasolene, leaving small quantities standing about in open tins, and slopping quantities on the floor.

The situation in the small garage, particularly the private stable, of course is different. It seldom happens that conditions are right for the safe handling of the oils, and generally the fire risk is increased by the inflammable nature of the building. At the same time, the fact that more fires occur in public garages than in private ones is in itself proof that the construction of the building and its equipment is not the absolute guarantee of safety that might be imagined. As a matter of fact the real secret of safety rests with the administration of the public institution, even as it rests with the "fussiness" of the private owner.

There is a deplorable lack of discipline about most garages—chargeable, perhaps, to the influence of the bumptious private chauffeur—which is directly counter to the principles of safety in this as in other matters. Where it is possible to carry out a close system of routine work for each employe, and to exercise a watchful supervision over the doings of each, there it is safe to say the fire risk, which is perhaps the greatest menace the garage proprietor has to face, is at its minimum.

Designing for Practical Results.

Schemes almost beyond number arise and thrive in the brain of the designer—"pet ideas" for the improvement of this or that part, grand notions for the complete rehabilitation of an entire model, plans for enlarging the scope of the product through alterations in design. And because these little offshoots of his labors are not invariably accepted at face value by his employer it not infrequently happens that the otherwise capable and efficient engineer becomes a victim of the impression that he is not appreciated. As a matter of fact, however ambitious the manufacturer may be, and however much inclined to follow the lead of his engineering corps, he also is under the thraldom of a monster called the business department. However much he may desire to improve his product he may not do so wisely except in ways which promise a direct return. It is this principle which explains a number of little structural economies in many up-to-date cars, which the layman, and in many instances the designer himself cannot appreciate. Incidentally the engineer who is far seeing enough to invent and propose only such modifications as are patent necessities or obvious winning features, is usually the one who best proves his worth to his employer and the public.

It is pleasing to observe the gradual change of attitude manifest in foreign trade circles toward the American branch of the industry. Early acknowledgement on the part of American builders of the then supremacy of the foreign product, particularly as made on the Continent, led to the erroneous impression that the American manufacturer lacked the power of originating except along wildly radical lines. American cars were scorned as being either copies of foreign designs or else needlessly original.

It has come about in the process of time, however, that the same respect for unfettered invention which is manifest in the foreign makers' use of American machine tools also has been transferred to other products. Thus in parts, accessories and even in complete component groups, the foreign maker has come to draw upon the American market to a very considerable extent—more so, perhaps, than is generally known. A recent case in point is the adoption of a complete motor of such unusual design as to constitute one of the most striking innovations seen for several years among foreign makers of recognized standing. For this, due credit is given, though somewhat grudgingly, to its American origin, and the widespread publicity accorded its adoption constitutes a strong though possibly unwitting testimonial to growing respect for the over seas product.

COMING EVENTS

October 6-9, Chicago, Ill.—Chicago Motor Club's 1,000 miles reliability run.

October 10, Philadelphia, Pa.—Quaker City Motor Club's 200 miles road race, Fairmount Park.

October 10, Long Island—Motor Parkway sweepstakes for stock cars.

October 10, Providence, R. I.—Rhode Island Automobile Club's race meet, Narragansett Park.

October 14-16, Cleveland, O.—Cleveland Automobile Club's reliability run.

October 15, 16, 17—Michigan State Automobile Association's endurance run.

October 17, Hartford, Conn.—Automobile Club of Hartford's hill climb, Avon Mountain.

October 17, New York City, N. Y.—New York Automobile Trade Association's hill climb, Fort George hill.

October 17, Kansas City, Mo.—Automobile Club of Kansas City's race meet, Elm Ridge track.

October 24, Long Island—Vanderbilt Cup contest.

October 31, Philadelphia, Pa.—Automobile Club of America's 200 miles light car race.

November 23, Savannah, Ga.—Automobile Club of America's 200 miles light car race.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles race.

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ROBERTSON REELS OFF 1,177 MILES

Simplex Driver Wins 24 Hours Race at Brighton Beach—Accidents Eliminate Half the Contestants.

After repeated hard luck in 24-hour contests, George Robertson, with Frank Lescault as alternate, driving a 50 horsepower Simplex car entered by Charles A. Singer, won a decisive victory in the twice-around-the-clock race at Brighton Beach on October 2 and 3, Robertson crossed the finish line with 1,117 miles to his credit—a remarkable performance. While the 24 hours world's record made by S. F. Edge, made on the specially banked cement track at Brooklands, England is still unapproached, nevertheless Robertson's mileage exceeds all other records made on ordinary dirt tracks, and beats Bernin's Morris Park Renault record of 1,079 miles by a big margin. Twelve contestants faced the starter and of this number only six were running at the finish.

The event was run under the zealous management of the Motor Racing Association and was sanctioned as an international race by the Automobile Club of America. Despite this most of the drivers were under the ban of disqualification at the hands of the American Automobile Association for participation in a former unsanctioned event. The rite of absolution granted by the latest ruling of that august body, however, is calculated to whitewash the sins of those who labored under a "misapprehension in the matter of sanctions."

Ralph Mulford and Harry Cobe in the same Lozier "six" that won the last 24 hours contest at this track, scored second place with 1,125 miles to their credit, and Montague Roberts, in a six-cylinder Thomas, with Martin and Winter for alternates, captured third, after covering 1,115 miles.

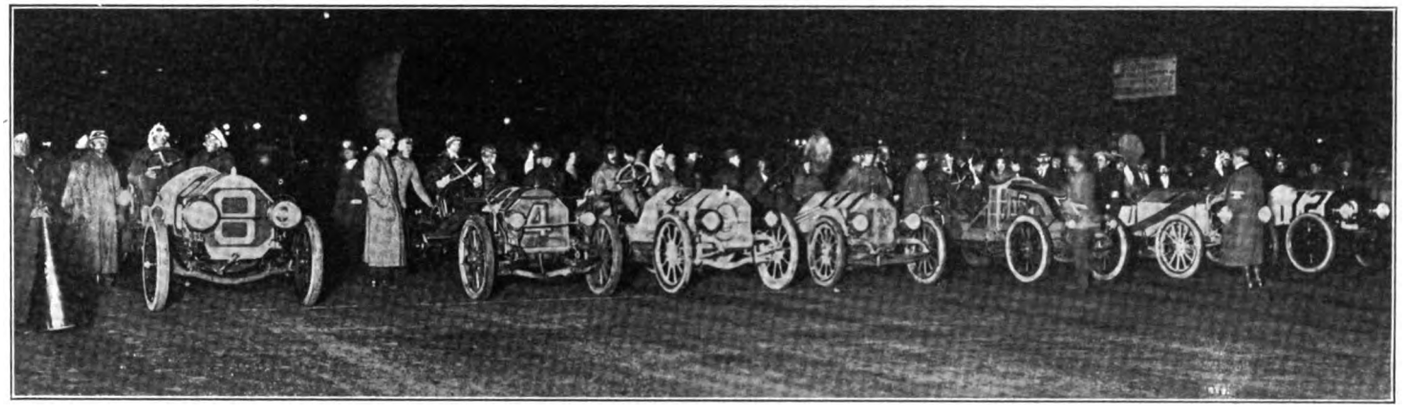
The Allen-Kingston, piloted by Lanwell, Rippengille and Pepperday, came in for fourth place with 907 miles; Chevrolet, in the Cleveland which cracked two cylinders and lost seven hours in repairs was fifth with 632 and the Stearns, which Marquis, Laurent and Oldfield handled, was the only other to finish, having gone less than half the distance the leading cars covered, owing to an unfortunate smashup.

Lewis Strang, who guided Paul La Croix's Renault, was a victim of big misfortune. He and Basle, his alternate, had been fighting Robertson for the lead for more than 18 hours, the Renault and Simplex taking turns at leading the field, when Strang's car suddenly snapped a connecting rod and damaged the cylinder to such an extent that it could not continue.

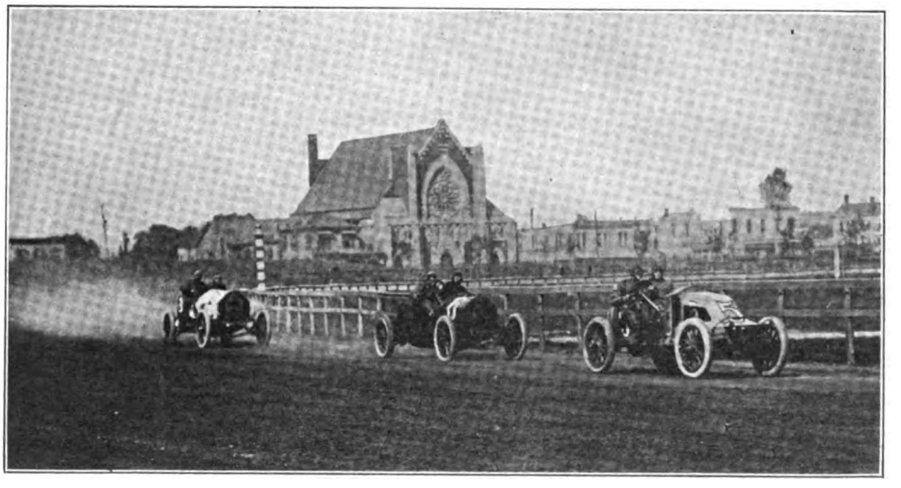
Due credit should be accorded to Charles A. Singer for his persistence in entering the Simplex in contest after contest, despite its failure to secure the first places he was confident of its ability to earn. Robertson, who has had more than one unfortunate experience, drove a splendid, daring race and can be counted on to be a worthy contender in the Vanderbilt three weeks hence. Robertson used Michelin tires throughout, as did Strang. The second car used Continentals, and Diamonds got third place.

Just before starting time, an accident prevented two of the big contenders from getting into line. Ed. Young, who had been practicing with the Garford entry, was ordered back to the paddock and while switching into the gateway from the center of the track, was run into by Harry Michener, who was trying out the four-cylinder Lozier. As the latter rounded the turn, he failed to see Young in time to dodge him. The frames and rear axle of both cars were so badly shattered that neither could enter the long race, although the start was delayed for nearly three-quarters of an hour in order to allow the Garford crew to attempt necessary emergency repairs.

It was a spectacular start, such as characterizes all 24 hours races which begin at night. When the cars tore away at 8.46, Robertson jumped his Simplex to the front and led around the first turn, with Roberts's Thomas "six" on the pole, sticking close. Marquis in the Stearns was third and Martin, in the four-cylinder Thomas, fourth. The cars bunched and were so enveloped in smoke that it looked as though a smashup must be inevitable before the initial turn was rounded. Robertson led the pack around the upper curve and swung into the stretch ahead, when the New York-Paris driver opened up his Thomas and completed the first lap on about even terms with the

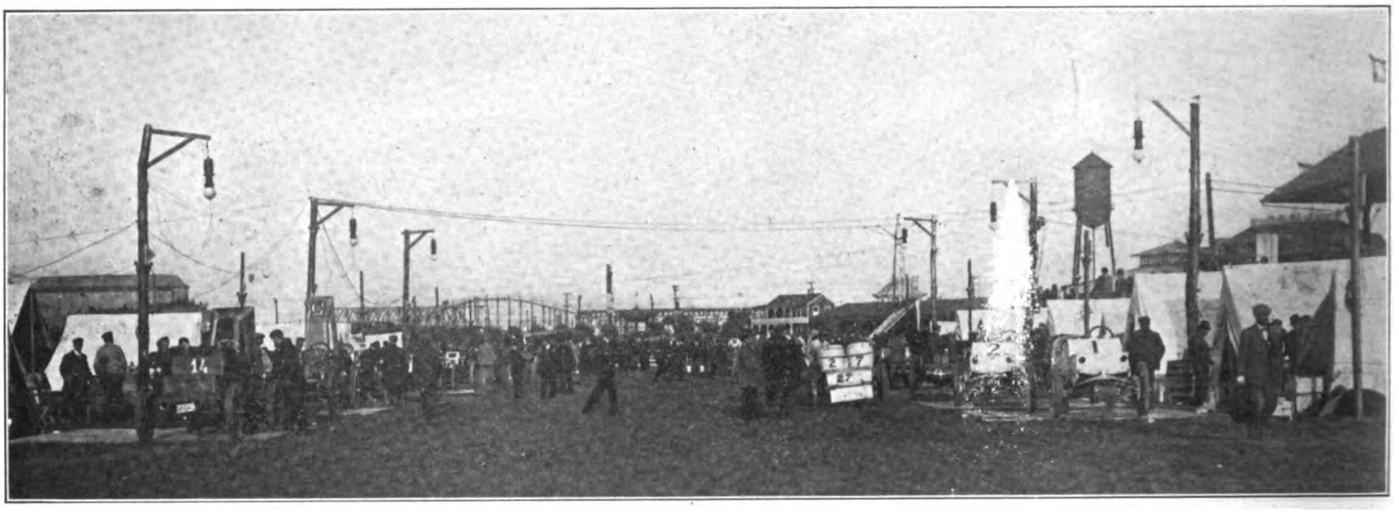


LINED UP FOR START OF THE TWICE-AROUND-THE-CLOCK RACE



STRANG LEADING ROBERTSON AND ROBERTS

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GENERAL VIEW OF THE PADDOCK, SHOWING AVENUE BETWEEN THE CAMPS

Simplex, trailed by Marquis and Martin. Roberts out-generaled the first driver to the turn ahead and forged into the lead; these two drawing away from the string and keeping in a clear field at a furious pace. Then ensued a hot bout between the two pilots whose names are similar.

The ten miles mark was passed in 11:32 and the leading cars held the same relative positions until the 23d mile, when Roberts's Thomas suffered from a choked fuel line and was forced to retire to the paddock and lose a lap. Robertson seized this opportunity and kept up the pace.

He made 40 miles in 44 minutes and when the first hour struck, he had covered 55 miles, which is 3 miles better than the distance made by Bernin's Renault at Morris Park last year. Strang had 54 miles to his credit for the first hour, while Mulford was third with 51, and Marquis fourth with an even 50.

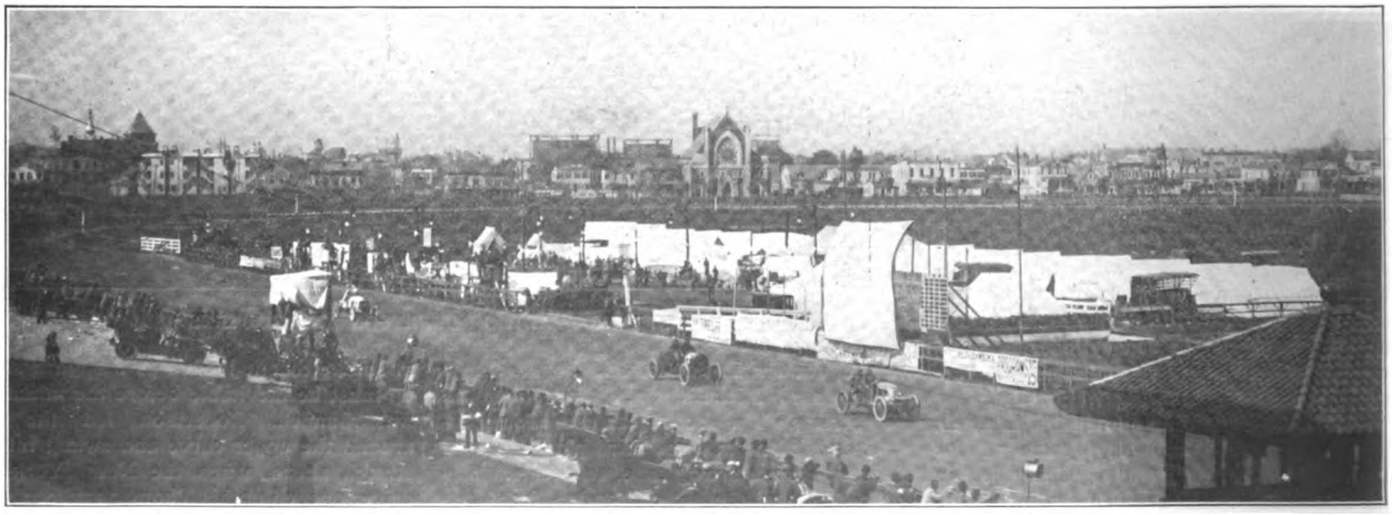
Roberts had returned to the track in the meantime, but trouble with tail lamps set him back so that he covered only 49 miles up to this point.

At the end of the second hour, the leaders were in the same positions; Robertson with 107 miles chalked up, and Strang giving a good account of himself with 105, and keeping Mulford in third position 6 miles behind the leader. Then the accident lists were reopened.

Shortly after 11 p. m. a special policeman named Fickert, unfortunately attempted to cross the track and was struck by George Robertson's car, with fatal results. The man evidently was not heeding the approaching machines, or else misjudged their speed, for he was overhauled by a trio of cars. Strang and Chevrolet barely missed him, but Robertson was directly behind and could not avoid striking the man, although he applied his brakes so quickly that Marquis telescoped the Simplex, smashing the Stearns's frame and headlamps. Lescault at once relieved Robertson at the wheel of the Simplex and started out for Strang, who had secured the lead, with the Lozier and Roberts's Thomas in second and third places.

The excitement had hardly subsided when Harry Cobe, who had relieved Mulford in the Lozier, blew up a front tire and skidded into the outer fence. The car ran into a ditch, the shock throwing out the mechanician, who landed in the mud unhurt. After being hauled out of the mire the car was soon touched up and put back on the track, although Cobe had lost his advantageous position. In the mean time, Lescault had been doing some tall work with the Simplex, fetching it past Roberts, and was running second to Strang at the end of the fourth hour. The latter had covered 211 miles up to this point, 18 miles ahead of Morris Park figures. Strang held this lead for six hours, with Lescault at close range all the time; then in the tenth, the Simplex driver regained first position, holding it for two hours until Strang capped him in the twelfth. It was then a continuous duel between these two until the 19th hour.

In the mean time, Roberts and Mulford were fighting for third notch. Roberts passed the Lozier in the fourth hour and held his own for third place until the eighth, when Mulford again eclipsed him. For



VIEW OF TRACK AND CAMPS FROM GRANDSTAND, SHOWING STRANG, ROBERTSON AND MULFORD IN STRETCH

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hours these two kept alternating for the position with only a few laps margin between them.

About 2.30 a. m., Saturday, there was another sensational accident. Bloch's Renault overturned in taking the lower turn and caught fire. Bloch and his mechanician were thrown out, but escaped with slight scratches, while the car was smashed and burned beyond repair. Immediately following this accident, Charles Natjen, the Zust driver, crashed through the outside fence, spilling both himself and his assistant, Harry Bertell. The latter landed uninjured, but Natjen's head was cut and his leg lacerated. Two cylinders of the Zust motor were smashed when a fence rail pierced the radiator.



BUSY MOMENTS IN THE SIMPLEX CAMP

The Fiat, driven by Capra and De Palma, withdrew with a broken connecting rod in the eighth hour. Martin and Blanchard's Thomas followed suit in the eleventh, and Patscke and Rodger's's Acme in the twelfth.

Until the 19th hour, Lewis Strang gave Robertson a good argument for the leadership, and just when the contest had reduced itself to a point where the winner could be picked from the quartet composed of the Simplex, Renault, Lozier and Thomas cars, Strang suffered the connecting rod accident referred to above and was forced off the list. Mulford then drew into second, closely pushed by Roberts.

At 5.45 Saturday afternoon the contest was stopped for half an hour to sprinkle the track and put it into condition for the finish. When the cars returned to the fray Robertson continued to push his Simplex around at high speed. He was leading by 60-odd miles and with but six other competitors on the track—only two of whom looked dangerous, the Simplex driver took a 45 miles an hour pace and was never headed. When flagged in the final round with 1,177 miles to his credit, he was 52 miles ahead of Mulford. The latter was pushed hard for second place by Roberts's Thomas, which was within four miles of the Lozier at the close of the 23d hour, although at the finish it had covered a total of 1,115 miles against Mulford's 1,125.

Previous to the start of the 24 hours race, a few short events were held on Friday afternoon. The principal feature was a 50 miles affair in which half a dozen cars started. Barney Oldfield entered two Stearns sixes, one of which he drove himself, the other being in charge of Charles Soules. Oldfield led the string throughout and won in 50:43, with his partner in second place. In the sixth mile, Steinmetz's Mercedes threw a tire and withdrew, while Kilpatrick's Hotchkiss went out later. Roux, driving a Mercedes, was third, trailed by Howard, in a Palmer-Singer.

In the mile trials, Ralph De Palma, driving the Fiat "Cyclone," circuited the track in 0:52⅕. The best George Robertson could get out of the Fiat "Tornado" was 0:58. When these two went in for a ten-miles bout Robertson was disabled in the fourth mile. De Palma's time for the distance was 9:45.

Barney Oldfield took the five miles six-cylinder race in 5:20⅖, out-classing Kilpatrick in the Hotchkiss, and Ray Howard in the P. & S. A special 5 miles match between De Palma, Oldfield and Robertson was captured by the former with the Cyclone, in 4:46. Robertson pressed him hard, but Oldfield, who had been jumped at the start, dropped out. The summaries:

One mile trials—Won by Ralph De Palma (Fiat Cyclone), 0:52⅕; George Robertson (Fiat Tornado), 0:58.

Ten miles special—Won by De Palma; Robertson disabled in fourth mile. Time, 9:45.

Five miles six-cylinder—Won by Barney Oldfield (Stearns); second, H. J. Kilpatrick (Hotchkiss); third, Ray Howard (P. & S.). Time, 5:20⅖.

Fifty miles race—Won by Barney Oldfield (Stearns); second, Charles Soules (Stearns); third, Roux (Mercedes). Time, 52:06.

Five miles match race—Won by Ralph De Palma (Fiat Cyclone); second, George Robertson (Fiat Tornado). Barney Oldfield withdrew. Time, 4:46.

SUMMARY OF RACE, SHOWING MILEAGE BY HOURS.

No.	Car.	Drivers.	1	2	3	4	5	6	7	8	9	10	11	12
6	Simplex	Robertson and Lescault	55	107	143	198	255	302	350	401	454	508	559	612
2	Lozier	Mulford, Cobe and Michener	51	101	153	191	228	279	329	381	414	468	513	562
8	Thomas	Roberts, Winter and Salzman	49	99	151	193	236	286	329	374	423	470	516	565
11	Allen-Kingston	Lanwell, Rippingille and Pepperday	42	74	91	94	128	148	185	237	287	328	372	413
9	Cleveland	Chevrolet, Miller and McMann	43	88	137	187	231	263	263	263	263	266	266	266
5	Renault	Strang and Basle	54	105	158	211	265	305	356	408	455	506	558	613
4	Stearns	Laurent, Marquis and Oldfield	50	100	131	131	131	131	131	131	184	241	254	254
15	Zust	Post and Natjen	46	52	82	121	174	217	217	217	217	217	217	217
7	Acme	Patschke and Rodgers	35	62	84	109	143	184	204	233	245	293	309	W
3	Fiat	De Palma, Capra and Hawley	48	99	167	185	237	283	303	Broke connecting rod.				
14	Renault	Bloch and Clement	43	83	123	176	221	255	Overturned and destroyed by fire.					
12	Thomas	Martin and Blanchard	35	35	70	116	158	177	178	188	205	206	Withdrn.	
10	Garford	Young and Doty	..	..	..	..	..	..	..	..	..	..	..	..

No.	Car.	Drivers.	13	14	15	16	17	18	19	20	21	22	23	24
6	Simplex	Robertson and Lescault	658	710	761	810	856	903	949	992	1,041	1,086	1,131	1,177
2	Lozier	Mulford, Cobe and Michener	611	650	702	742	791	840	888	933	981	1,031	1,075	1,125
8	Thomas	Roberts, Winter and Salzman	600	650	690	738	786	837	877	928	973	1,022	1,071	1,115
11	Allen-Kingston	Lanwell, Rippingille and Pepperday	451	495	533	579	615	660	710	750	796	827	874	907
9	Cleveland	Chevrolet, Miller and McMann	267	311	347	361	392	437	475	513	543	583	625	632
5	Renault	Strang and Basle	655	705	758	802	857	888	Broke connecting rod; withdrew.					
4	Stearns	Laurent, Marquis and Oldfield	255	268	268	268	268	287	339	383	429	480	509	519
15	Zust	Post and Natjen	217	217	228	232	269	285	308	333	370	396	421	
10	Garford	Young and Doty	43	47	Withdrawn.									

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BIG RATIO OF PERFECT SCORES

All Starters Finish in Indianapolis Sealed Bonnet Run—Fifteen Out of the Twenty-Six Escape Penalization.

When the Indiana Automobile Trade Association arranged its second annual sealed bonnet contest, which was held on Friday and Saturday, 1st and 2d inst., the technical committee laboring under the impression that the "perfect scores" at the end of the two days' run would be quite scarce, were in error, however. Twenty-six contestants set out from Indianapolis on the run to French Lick, Ind., and of this number, 15 returned with perfect scores. All of the cars made the round trip on schedule time and the only penalizations recorded were minor ones. The total distance covered was 254 miles, 131 miles being the first day's schedule, and the return 123.

The perfect 15 were the following; John Aitken, National; Thomas Kincald, National; H. G. Shafer, Marmon; H. Stillman, Marmon; Harry Hammond, Premier; Henry Letsinger, Premier; Miss Elizabeth Love, Premier; Frank Horrison, Premier; Ted Collier, Rambler; George Gasterneau, Mitchell; J. A. Newby, Maxwell; T. L. Marshall, Maxwell; J. H. Stickney, Chalmers-Detroit; Harry Hocker, Oakland, and O. G. Myers, Reo.

This run was through as picturesque a section of Indiana as could be selected and was considered a successful affair. The first day's run, via Millport Hill and Plattsburg, saw very few cars in trouble. The only accident was when J. A. Newby's Maxwell skidded into Harry Stocker's Oakland near Seymour and smashed off a lamp and fender of the latter. No one was injured. At Millport the cars were given a stiff climb up the steep two miles hill.

The return journey was made via Bedford, Bloomington and Martinsville, upon which there were numerous cases of tire trouble, Fred Tone's American roadster losing two whole hours with tubes, which, however, the driver managed to make up.

A great deal of amusement was created by Frank Grogan's Rapid Truck, which carried a dozen passengers, all dressed in prisoners' stripes. Two women drivers were among the contestants, Miss Elizabeth Love and Miss Katrina Fritz, while the ten-year-old daughter of D. M. Parry guided the wheel of her father's Overland entry part of the time.

San Antonio Meet Full of Incident.

Two smash-ups inside five laps was the record that J. W. Collins made during a short race at San Antonio, Tex., on Saturday, September 27th. In the first accident he merely crashed into a fence and was hurled about 20 feet in the air. Again, after the car had been righted and run two laps, Collins smashed down a second fence and completely upset. Following this, the driver desired to get into the race once more, but the car could not be made to run, much to Collins's chagrin.

In this race there were but two starters—Ben Johnson, in a Mitchell, and Collins's Buick. The former drove three laps and retired to the paddock for adjustment. Collins, who had been skidding badly on the turns, then slowed down slightly, but in rounding the next turn a tire blew up, the car swerved and shot through the rail. Collins picked himself up, looked around for the car and when he located it proceeded to shove it back on the course. In the meantime, Johnson had returned to the track and was well under way. After his second spill the crowd picked up Collins's scattered parts some distance away and reassembled him. He was feeling very well two minutes later, but did no more driving. The event was declared "no race," by the judges.

What was billed as the feature of the program was a 50 miles go between Dave Pryor's Stoddard-Dayton and Will Morrison's Thomas-Detroit. Pryor drove five miles and then surrendered the wheel to Alfred de Hymel. The two contestants fought nip and tuck for 22 laps, when de Hymel suffered a puncture which caused him to lose the race. Upon returning to the track he drove faster than Morrison, gaining a whole mile, but did not succeed in bridging the gap of ten laps. Just as the Thomas crossed the finish line de Hymel broke his steering gear and narrowly missed the fence in a bad skid. Morrison's time for 50 miles was 52:04⅗.

A novelty race was won by W. D. Syers driving a Chalmers-Detroit. The "novelty" feature of the contest was that each car carried five passengers, and was required to stop at every lap in front of the grand stand, "kill" the engine, unload and reload the passengers and then take a fresh start.

Tennessee Takes to Automobile Races.

After numerous fine thoroughbreds, selling platers, dray mules and common ordinary skates had raced around the half-mile track at Cumberland Park, Nashville, Tenn., on Saturday, 26th ult., the last day of the State fair, a few automobile races were reeled off as a wind-up. So enthusiastic were the people over the latter, that the management expects to feature motor races next year instead of the traditional equine sport of the past.

The principal race at the fair meet, a ten miles roadster event, was won by Joe Youell, driving a 30 horsepower Moon, who made the 20 circuits in 12:54⅗. Eli Coillette (Oldsmobile) was second. Youell also won the five miles for touring cars in 5:55, easily beating Duncan Dorris in a Dorris car. W. J. Cummings ran third with a 60 horsepower P. & S. The two miles event for small cars went to W. N. Norman, his Maxwell outclassing the only other entry, which was a Buick.

SEVENTEEN CONTESTANTS START

Two Divisions Begin Chicago's Postponed Reliability Run—Contest is to Cover Four Days of Running.

One thousand miles—no less—is what the 17 contestants in the Chicago Motor Club's postponed four days reliability contest set out to cover on Tuesday, the 6th inst. Quite a variety of cars was represented; 2 cylinder, 4-cylinder, 6-cylinder gasolene cars, steamers, and one motor buggy. All day Monday the technical committee spent in examining the cars and sealing the various parts.

The cars are to run over four different routes, starting from and returning to Chicago each day. The first day's schedule was 262 miles, the route passing through Kenosha, Wis., Janesville, Wiss., Rochelle, and Geneva, at which points controls were located.

Contestants were split into two divisions, runabouts and touring cars, and then subdivided into selling price classes, each car carrying an observer. The starters were:

Driver and Car.	H.P.	Cyl.
C. L. Halliday, Reliable Dayton	21	2
J. Montweiler, Maxwell	20	2
F. S. Dusenberg, Mason	20	2
F. M. Harn, Mason	20	2
N. McLain, Apperson	30	4
E. W. Nicholson, Midland	32	4
P. Hoffman, Pierce-Arrow	43	6
F. H. Nutt, Haynes	36	4
R. F. McNamara, Premier	32	4
J. G. Heaslet, Rainier	45	4
W. Leitch, White steamer	30	2
H. K. Sheridan, White steamer	30	2
L. E. Springer, Franklin	28	4
L. Wagoner, Haynes	36	4
Geo. Smithson, Studebaker	27	4
Joe Moore, Premier	Official car	
H. G. Shafer, Marmon	50	4
A. Kumpf, Pierce-Arrow	60	6

Tie Unbroken in Boston's Contest.

After covering 1,622 miles, the three survivors who were endeavoring to run off the Boston-Bretton Woods 24 hours endurance contest tie, agreed to quit on Thursday evening, 1st inst. The three of the twenty-two original starters who still held perfect scores at the end of the sixth day's attempt at evolving a winner, were a Studebaker, driven by W. G. Jones and R. W. Daniels; Dan Carris's Franklin, and the Shawmut car with Ayer and Church as pilots.

The contest was run under the most stringent and exacting rules, much of it being under weather conditions as well. At the close of the original 24 hours run which started at 10 p. m. on Septemmer 23, from Boston, running to Bretton Woods, N. H., and return, there were only nine of the 22 contestants left with perfect scores. Seven of these started out next day to run off the tie and the list was soon cut down to three. The Bay State Automobile Club is still in possesion of the $200 silver trophy.

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ENTRIES FOR THE SWEEPSTAKES

Good Program for Inauguration of the Long Island Motor Parkway—Arrangements for the Opening Day's Racing.

Long promised and eagerly awaited, the formal opening of the Long Island Motor Parkway on Saturday next, October 10th, forms perhaps a more fitting introductory to the Vanderbilt Cup contest than would the simple elimination race which it displaces. That the Sweepstakes itself is destined to be one of the most eventful races ever run in this country is emphasized by the fact that no less than 34 cars of varied powers and size will be in simultaneous competition and constantly passing and repassing one another. No less interesting than the comparison of the performances of the different cars, will be the opportunity to compare the relative performance of each on the macadam of the common highway and the scientifically prepared surface of the Parkway. For of the 25 miles comprising the circuit to be traversed, about 10 miles will be over the new-laid and practically untried concrete of the private way.

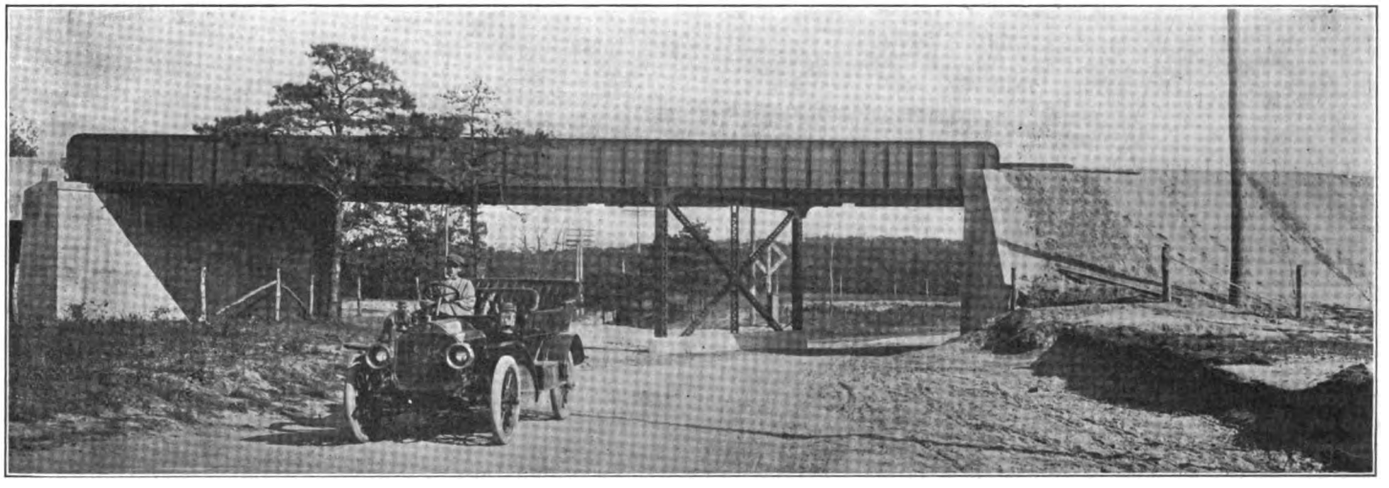
The complete list of entries to date, arranged in order of their classification in the race, is tabulated below.

By the terms of the race, all the contestants will start in a single heat within 30 seconds of each other, regardless of the class distinctions. The smaller ones will run 100 miles; the next class 150; the third, 200; the fourth, 225, and the high-powered, high-priced cars will go 10 laps, or 250 miles.

There will be only two supply stations on the circuit, one in front of the grandstand, which is sunken below the level of the parkway about five feet for the storing of the water, gas, tires, tools and spare parts. This idea of having a depressed supply pit originated abroad and has been tried with very satisfactory results in big European contests. Crews in charge of the supplies will remain in the pit and any driver desiring to make a change of tires or to take on supplies will stop in front of the station allotted to his crew. The men in the pit will pass up supplies to him and no one will be allowed to work on the car except the driver and his mechanic.

The other supply station will probably be located on the Jericho turnpike about 12 miles from the grandstand. Drivers will not be allowed to take on tires or supplies except at these places, but they may make any adjustments necessary on other parts of the course. The entire circuit is supplied with telephone stations and an immense score board has been erected on the roof of an official stand opposite the grandstand.

The entire parkway is fenced in so that it is now impossible to enter it except through one of the three toll lodges which have been established at Meadow Brook, Massapequa and Bethpage. The Meadow Brook Lodge, which is situated at the eastern entrance, is reached by the Old Westbury road which intersects the Jericho turnpike about three miles east of Krug's corners. From the intersection of the old Westbury road and the Old Country road, which leads directly to the parkway from



VIADUCT AT CENTRAL PARK—THE LONGEST BRIDGE ON THE PARKWAY

ENTRIES FOR THE SWEEPSTAKES CONTESTS ON THE VANDERBILT CUP COURSE.

Motor Parkway Sweepstakes—Cars Selling $4,001 and over—Ten Laps; 250 Miles.

Driver.	Car.	Entrant.
W. Haupt	Chadwick	Chadwick Engineering Wks.
H. Lytle	Isotta	Clifford V. Brokaw.
F. Lescault	Simplex	Palmer & Singer.
Kilpatrick	Hotchkiss	Hotchkiss Import Co.
Basle	Knox	Knox Automobile Co.
Lewis Strang.	Renault	Renault Freres.

Meadow Brook Sweepstakes—For Cars Selling $3,001 to $4,000—Nine Laps; 225 Miles.

C. Doty	Garford	Stewart Elliott.
Hughes	Allen-Kingston	Harry Allen.
Bourque	Knox	Knox Auto Co.
L. A. Disbrow.	Rainier	Mrs. Joan Newton Cuneo.
Peterson	Rainier	John Rainier.
Burman	Buick	Buick Motor Co.
Hilliard	Lancia	Hol-Tan Co.

Garden City Sweepstakes—Cars Selling for $2,001 to $3,000—Eight Laps; 200 Miles.

Davis	Moon	Chas. Duer-
	Palmer &Singer	Palmer & Singer.
Miller	Stoddard-Dayton	Atlantic Motor Co.
Wright	Stoddard-Dayton	Atlantic Motor Co.
Tuttle	Stoddard-Dayton	Atlantic Motor Co.
Haynes	Pennsylvania	Pennsylvania Auto Motor Co.
	Pennsylvania	Pennsylvania Auto Motor Co.
Lorimer	Chalmers-Detroit Forty.	Carl H. Page Co.
Sharp	Sharp Arrow	Factory.

Jericho Sweepstakes—Cars Selling for $1,001 to $2,000—Six Laps; 150 Miles.

	Chalmers-Detroit	Carl H. Page Co.
Burns	Mitchell	Mitchell Motor Car Co.
	Mitchell	Mitchell Motor Car Co.
	Maxwell	Maxwell-Briscoe Motor Co.
	Selden	Selden Motor Vehicle Co.

Nassau Sweepstakes—Cars Selling for $1,000 and Under—Four Laps; 100 Miles.

Virbies	Mitchell	Mitchell Motor Car Co.
Olney	Mitchell	Mitchell Motor Car Co.
	Gyroscope	Gyroscope Auto Co.
H. Easter	Buick	Buick Motor Co.
L. H. Titus.	Buick	Buick Motor Co.
Cameron	Cameron	Cameron Car Co.
Warnstaldt	Cadillac	Cadillac Motor Car Co.

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the Garden City Hotel, a new dirt road 22 feet wide has been built and winds south across the Hempstead plains, terminating at the Meadow Brook Lodge.

From here the general direction of the Parkway is east, practically paralleling the old country road. The start and finish is midway between the Meadow Brook and Massapequa Lodges. The other lodge is about four miles east of Massapequa, and here the racing cars will leave the cement and turn through a new cut-off which joins what is known as the Round Swamp road. Traveling almost due north along the Round Swamp and Plain View roads the racers will have a very fast but somewhat narrow stretch to travel with a few slight grades and several winding curves. There are no sharp corners until they reach the intersection of the Woodbury turnpike and the Jericho turnpike, where there is an abrupt right angle turn on to the latter famous thoroughfare.



STEEL GRANDSTAND WITH SEATS FOR 10,000 SPECTATORS

Vanderbilt Entry List May Reopen.

While the closing date for entries for the Vanderbilt cup race was announced as October 1 —a date extended from the originally scheduled closing time, September 1 —the Vanderbilt Cup Commission has not yet decided whether to consider the list absolutely closed or not. In view of the fact that there is a possibility of additional entries before the race takes place on Saturday, October 24th, the commission is considering a suggestion to extend the closing date still further and not charge an additional fee for post entries.

Fifteen cars have been entered to date, viz.: Paul Le Croix's Renault, which Lewis Strang will pilot; three Mercedes cars entered by Robert Graves, Wm. K. Vanderbilt, Jr., and Foxhall Keene; Harry Payne Whitney's Brazier, and Clifford V. Brokaw's Isotta, comprising six foreign entries. The nine American cars that have been nominated are, two Locomobiles, one of which will be handled by George Robertson and the other probably by Joe Tracy; R. W. Buckley's B. L. M. racer with Thomas Williams as pilot; two Knoxes to be driven by Bourque and Basle; a Chadwick, a Matheson and an Acme. The Mora, the first American entry, will not be completed in time to start.

PROVIDES REFUGE FOR "SINNERS"

A. A. A. Racing Board's Method for Easing Outlaws' Consciences—Meeting of Directors Called for Friday.

If any man who suspended himself by competing in the outlaw races on the Brighton Beach track in defiance of the rules of the American Automobile Association, desires to fill any other racing engagements, all he need do is to sign a statement that he competed under a misapprehension and that he will sin no more. After laboring hard and perspiring freely, the A. A. A. racing board has devised and offered this convenient refuge for all "sinners" and as most of the drivers concerned have engagements of the sort for Saturday next, in Philadelphia or on the Long Island Parkway, it is expected that a truly awful state of misapprehensiveness will develop. The manner in which the A. A. A. "whipped the devil around the stump" was disclosed by the resolutions adopted by the racing board at a meeting last Saturday, which are as follows:

Whereas, various persons have participated in races coming within the jurisdiction of the American Automobile Association, but for which no sanctions had been granted by that association; and

Whereas, It appears that from the statement of some of such persons they participated in the said races under a misapprehension; be it

Resolved, That in the cases of such participants as were under the misapprehension referred to their disqualification, pursuant to the rules of the racing board of the American Automobile Association, be suspended to the extent of enabling them to participate in any race already sanctioned by the racing board upon such persons filing a statement to the effect that they shall not hereafter participate in any manner or form in any race claimed by the association to be within its sole jurisdiction and for which no sanction has been granted by the racing board of the American Automobile Association.

While no mention is made of the entangled racing situation, President Hotchkiss, of the A. A. A., has called a meeting of the Board of Directors in New York tomorrow at which will be discussed "matters involving somewhat revolutionary changes in our organization and in the scope and functions of the association," which beautiful and profound phraseology is full of suggestion and nothing more.

Among the avowed purposes of the meeting are: (1) The adoption of proposed amendments to the by-laws which shall increase the scope and value of the association in the matter of touring information and the location of touring headquarters in New York City; (2) Amendments to the by-laws remodeling the framework and the purposes of the executive boards; (3) means whereby the activities of the association may be increased; (4) Suggestions as to the personnel of the executive officers and the heads of the boards for the coming year; (5) Whether the fiscal plan should not be materially modified and include a moderate flat fee for the clubs instead of graded annual dues.

Sixteen Entries for Philadelphia Race.

From present indications, the 200 miles race to be held in Fairmount Park, Philadelphia, on Saturday, October 10, promises to be a worthy rival of the Motor Parkway Sweepstakes which will be run on the same date on Long Island. When the list closed last week, 16 entries had been filed, which is the maximum number that can start, according to the Quaker City Motor Club's ruling. The course being but eight miles in length, this will permit cars to start on half minute intervals, and although additional entries would doubtless have been made before October 10, it was decided that more than 16 starters would make the race too dangerous. As it is, the last car will scarcely be started before the first will have completed its first circuit.

Practice on the Fairmount course began last Monday and many of the contestants were on hand at daybreak for tryouts. The course is not really dangerous for the most part, though there are two bad turns, one at Sweet Briar and the other an awkward left hand twist under the Reading railway tracks. The longest straightaway stretch is four miles in length along the West Park drive, where the racers expect to make the best speed. Road repairs have been in progress for several days, and the opinion of several drivers is that the course will permit an average speed of slightly more than 50 miles per hour.

The complete entry list is as follows:

	Cylinders.	H. P.
L. J. Bergdoll, American Locomotive	6	60
C. W. Kelsey, Maxwell	4	28
E. C. Ireland, Stoddard-Dayton	4	34.5
Bert Maucher, Peerless	4	38
W. Wallace, Palmer & Singer	6	60
George Davis, Apperson	4	48.4
E. R. Bergdoll, Welch	6	51
Frank Yerger, Studebaker	4	38.5
I. J. Morse, Locomobile	4	40
James Florida, Locomobile	4	40
Cyrus Patscke, Acme	6	45-50
Jack Harkins, Chadwick	6	50
Zengle or Maynes, Pennsylvania	4	38
Ralph Mulford, Lozier	4	45
Harry Michener, Lozier	6	50
La Roche or Staines, Pullman	4	40

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EARLY GLIMPSE OF NEW MODELS

Motor Cars a Feature in the Carriage Dealers' Show—Commercial Vehicles and High Wheel Buggies in Evidence.

With what serious regard the carriage dealer has come to look upon the automobile industry is revealed unmistakably at the Fifteenth Annual Exposition of the National Carriage Dealers' Protective Association which opened its doors to the trade at the Grand Central Palace, New York City, on Monday of this week, 5th inst. Following a significant representation during the corresponding season of last year, a score or more of automobile makers and members of the allied accessory trades have staged their exhibits alongside of those of the old line carriage and wagon builders and are attracting more than their share of attention, numerically speaking.

Incidentally the show affords a semi-private view of a number of offerings which are destined not to be publicly unveiled until the forthcoming season of automobile shows. In the fourteen different makes of automobile which are staged are no less than eight which never have been shown in New York, the majority of them being new models and branded as of the vintage of 1909.

Over in a corner, quite apart from other vehicles, is the stand of the Ford Motor Co., where are shown in addition to the Models "S" and the "six-forty" the new Model "T," here revealed for the first time. Without going into the details of this machine, suffice it to say that it appears to be a remarkable achievement. In small details as the mounting of the hood, the ignition wiring, finish and equipment, it shows no sign of hasty production, but rather evidences a number of structural refinements which, considering the price at which it is offered, are nothing short of surprising.

Another exhibit which is well worthy of close attention is that of Thomas B. Jeffery & Co., where are four different styles of car in the various models. As a machine which has been exploited over an extraordinarily wide field among practical users, the Rambler has a well-earned place among the exhibits of the vehicle trade. Nearby is the display of Reo cars, staged by R. M. Quinn & Co. As representing the heavier and more luxurious type, are to be found the Glide in the full panoply of a seven-passenger touring car, and the Pennsylvania—the latter in the form of a Model "C" chassis, much the same as that shown last fall, but mounting one or two minor alterations, notably in the reinforcement of the rear axle mounting at one point or another—the changes being those which will characterize the 1909 version. Announcement also is being made here of a new Type "D" car, also known as the "25," and which though not yet ready for the market, is long past the early stages of production and will be publicly announced shortly.

An exhibit which is entirely new, in so far as the cars staged are concerned, is that of the Nordyke and Marmon Co., both of the new "Thirty-two" and "Fifty" models being on view in touring mounting. The smaller of these machines has the new type of motor which was recently described in these columns, a unit type, axle-mounted change gear system, expanding ring clutch, double expanding brakes, and a low, rakish outline which is pleasing in the extreme. The larger machine has the three-point suspended, subframe construction which has been a Marmon feature for so long, multiple disc clutch, selective change gear and a form of rear axle mounting which is as unique as it is ingenious.

Of a totally different nature is the exhibit of the Autocar Co., where are shown for the first time two variations of a brand new type of commercial vehicle which is of entirely original design. The features most noteworthy are the unit power plant mounting, in which are combined a compact 19 horsepower double-opposed motor, three-plate clutch and sliding gearset, together with a double reduction, bevel and spur gear rear axle group, which besides affording an easy step-down for the high-speed motor, affords also a practically straight line drive under load. All the elements of the machine are so disposed as to render access to the parts a matter of small effort and delay, while in the use of magneto ignition, heavy band brake on the intermediate shaft of the axle group, solid construction and generally lavish use of material, the closest attention to the rigorous demands of commercial service is evidenced. This machine is to be furnished in two lengths of wheel base and in various styles of body, under the general rating of 2,000 pounds capacity. In addition to the wagon bodies, however, it appears in a particularly attractive setting on a cab exhibit, where with only 85 inches of wheel base, and a vehicle without overhang, are disposed comfortable quarters for four inside passengers together with ample room for a fifth beside the driver.

More or less in a class by itself because of its unique structural details, is the exhibit of the Brush Runabout Co. Here both the runabout and light delivery wagon are shown in all their originality of wood frames and axles, helical suspensions and left side control.

As being logically allied to the horse-drawn vehicles, it would naturally be expected that the motor buggy representation would be a strong one, as indeed is the case. One of the most solidly built members of this group is the Reliable Dayton, which is shown in both the runabout form and the new commercial wagon, which has already been described in these columns. Aside from the very evident staunchness of construction peculiar to this type, the commercial vehicle embodies a number of notable details, such as the use of pressed steel frame, 20 horsepower motor, sliding gear transmission, double chain drive, and well thought out disposition of weight with regard to traction resistances. A pleasing little arrangement in the matter of convenience to the user, is the mounting of the combined coil and battery box on the dash board. The runabout model has undergone some slight modification since last shown, as in a half-inch increase in tire sizes, and the use of a new form of radius rod with double expanding brakes.

In the Paterson, the W. A. Paterson Co. are showing an entirely new production for the first time in the shape of a long, rangy runabout with the general appearance of the typical motor car, combined with the light lines known only to the carriage maker of long standing. It has 36-inch wheels, chain drive, planetary transmission, and a 14 horsepower, opposed, ball bearing motor placed transversely under a conventional bonnet in front.

Another newcomer in New York, is the Chase Motor Truck Co.'s "business runabout." This vehicle is equipped with a 3-cylinder vertical, air-cooled, two-cycle motor, located under a hood in front, planetary change gear and chain drive. It is mounted on 40-inch wheels, has 90-inch wheel base, and a plain open body of the Democrat type.

The offering of the Anderson Carriage Mfg. Co. is presented in two styles, both of the buggy type, with double-opposed, air-cooled motor disposed beneath the seat, and rated at 12 horsepower, planetary transmission and side chain drive. One has 36-inch wheels and 1¼-inch tires, while the other is a neatly done up approach to what in carriage parlance would be called the phaeton type. An important detail of this vehicle is the construction of the running gear which is framed up in a particularly substantial manner.

In the Schacht a number of minor alterations have been made since last show time, as in the case of the wheels, which are now 38 inches in diameter, instead of 31 and 40, front and rear; the wheel base, which has been increased by 8 inches; and the motor power, which has been raised from 12 to 16 horsepower. In other respects it is practically unchanged, and presents the novel arrangement of the friction transmission with floating disc surrounding the differential drum, which has characterized it from the first.

The Holsman display is noteworthy in that that pioneer maker of his class is showing for the first time an entirely new model known as the "gentleman's automobile," and embodying a number of original details of a radical nature. This vehicle, which is of the coupe type, has a central control pillar so contrived that the vehicle may be operated from either side of the seat. The most unusual feature is the mo-

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tor construction in which a four-cylinder, four-cycle opposed mechanism of block construction, and given a rated output of 26 horsepower, is suspended on the countershaft, which, with the general plan of transmission, is a Holsman feature. In place of the usual crank and connecting rod construction, what may be briefly described as a version of the principle of the Scotch yoke is employed, and the pistons of opposite cylinders are tied together by means of a webbed connecting member carrying an annular ball bearing in which the eccentric member rotates. No gears of any sort are employed, the inlet valves being automatic in action, and the exhausts being actuated direct from the motor shaft without intermediate mechanism. Lubrication is effected through the medium of the gasolene feed, as in two-cycle practice. Another novel feature of the machine is the transmission system in which the cable drive which is employed on the other models is replaced by a steel chain of trapezoidal section which is employed frictionally over sheaves for the high gear, but on low and hill-climbing drive, is dropped into a sprocket by the spreading of the flanges on the driving sheave.

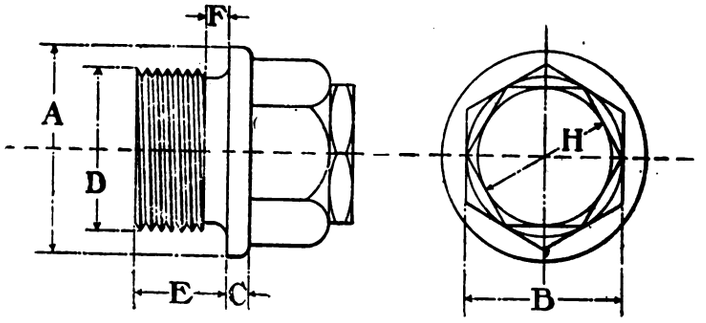
Among the parts and accessory makers are several names which are familiar to the automobile trade, though for the most part gaining representation here by reason of their alliance with the carriage industry through one or more of its many subsidiary channels. This is true of the exhibits of the Hartford, Goodyear and Diamond tire companies, the Sprague Umbrella Co., the Timken Roller Bearing Axle Co., and others. The list of automobile exhibitors and of accessory makers falling under this classification follows:

Anderson Carriage Mfg. Co., Anderson, Ind.; the Autocar Co., Ardmore, Pa.; the Bartholomew Co., Peoria, Ill; Brush Runabout Co., Detroit, Mich.; Chase Motor Truck Co., Syracuse, N. Y.; Ford Motor Co., Detroit, Mich.; James L. Gibney & Brother, Philadelphia, Pa.; High Wheel Auto Parts Co., Muncie, Ind.; Holsman Auto Co., Chicago, Ill.; Thomas B. Jeffery & Co., Kenosha, Wis.; W. H. Kiblinger & Co., Auburn, Ind.; Keystone Lubricating Co., Philadelphia, Pa.; Lewis Spring and Axle Co., Jackson, Mich.; W. P. Mallon, New York N. Y.; Nordyke & Marmon Co., Indianapolis, Ind.; R. M. Owen & Co., Iansing, Mich.; W. A. Paterson Co., Flint, Mich.; Pennsylvania Auto Motor Co., Bryn Mawr, Pa.; Reliable Dayton Motor Car Co., Chicago, Ill.; Schacht Mfg. Co., Cincinnati, O.; Sprague Umbrella Co., Norwalk, O.; Swinehart Clincher Tire and Rubber Co., Akron, O.; Consolidated Rubber Tire Co., New York, N. Y.; Diamond Rubber Co., Akron, O.; Goodyear Tire and Rubber Co., Akron, O.; Hartford Rubber Works Co., Hartford, Conn.; Rose Mfg. Co.,; Timken Roller Bearing Axle Co., New York, N. Y.; and Vehicle Apron and Hood Co., Columbus, O.

A. L. A. M. STANDARD SPARK PLUG

Complete Specifications as Adopted by the Mechanical Branch—Special Details That are Left Optional.

After the lapse of a considerable period the Mechanical Branch of the Association of Licensed Automobile Manufacturers has published the complete specifications of the A. L. A. M. Standard Spark Plug. As explained in the first announcements, the standard adopted calls for a ⅞-inch, 18 pitch plug in which a straight thread is used in place of the tapered pipe fitting at present in common use. The full working details necessary to the construction of the plug are given in the accompanying draft, as printed in an official bulletin under date of October 1st.



A—ONE AND ONE-EIGHTH INCH (1⅛″)
B—SEVEN-EIGHTHS INCH (⅞″)
C—ONE-EIGHTH INCH (⅛″)
D—SEVEN-EIGHTHS INCH (⅞″)
E—NOT LESS THAN ONE-HALF INCH (MIN. ½″)
F—NOT MORE THAN ONE-EIGHTH INCH (MAX. ⅛″) (DEPTH OF RECESS—NOT OVER DEPTH OF THREAD)
H—THREE-QUARTERS INCH (¾″)

In addition to the dimensions shown on the drawing the following specifications also are presented: The stock is to be 1⅛-inch, round; the head form milled hex. with a short diameter of ⅞-inch. The flange is to be circular, 1⅛-inch in diameter by ⅛-inch in thickness, the face to have an annular seat ⅛-inch wide, and suitable for a McKim type copper-asbestos gasket. The blank for the thread must be ⅞ inch in diameter and not less than ½ inch long. The recess adjacent to the flange must be not over ⅛ inch in width and of a depth not greater than that of the thread. The United States standard form of thread is employed, ⅞-18 in size and straight, cut perfect into the recess. The nut head for the packing gland is to be hexagonal in form with a short diameter of ¾ inch.

As the specifications for the standard extend only to the dimensions of the plug and packing gland, it is obvious that the type of insulation to be employed as well as its form and that of the sparking terminals is left open. Thus no restriction on the maker or user is involved in the adoption of the standard, and the vested rights of the accessory maker are in no wise encroached upon. At the same time the adoption of the standard thread, which has become pretty general already carries no small benefit to the trade.

"Blue Blaze" a "Plug Within a Plug."

Giving a thing "blue blazes," is an expression not always fraught with the most complimentary of meanings. The phrase may be accepted in a new sense in the case of the automobile motor, however, in instances where the blaze is of the sort furnished by the Blue Blaze spark plug. This device is the most recent product of the Cleveland Spark Plug Co., Cleveland, O., and is being introduced as a "plug within a plug.' In other words, it possesses the advantage of having an enclosing shell which serves to protect the insulation and guard against the frequently serious troubles due to soot, oil and carbon. Like the "Cleveland" lug which springs from the same source, it is produced with scrupulous care and finished to micrometer gauge.

Tires that Make Their Mark.

If in the soft ooze or clay of a slippery road the motorist sees before him a ribbon of letters impressed into the road surface, reading "NON-S ID. FIRESTONE NON-SKID. FIRES TON"—etc., he may safely take it that the car ahead is equipped with the new product of the Firestone Tire & Rubber Co., of Akron, O., a feature of which is that the words "Firestone Non-Skid" are in raised letters around the big circumference of the letters themselves provide the non-skidding element, and are said to be highly efficacious.

A New Type of Solid Tire.

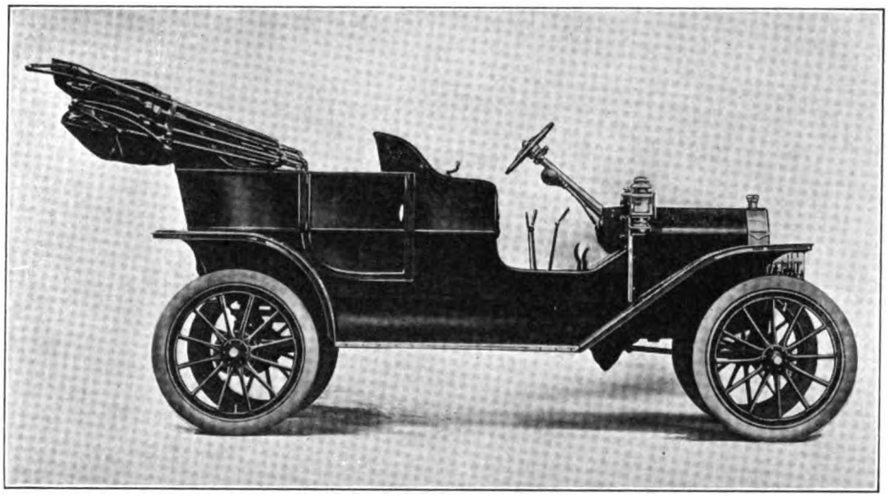
By vulcanizing a hard rubber base to a soft rubber body and tread, the Goodyear Tire and Rubber Co., of Akron, O., has developed a new type of solid tire for which great durability is claimed. P. W. Litchfield, superintendent of the factory, is credited with the invention of the process which makes possible the vulcanizing of hard and soft rubber together.

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SIMPLICITY IN NEW FORD MODEL

Unique Detail in Arrangement of the Power Plant—Novel Features in Suspension and Control Systems.

Although it was practically ready for production last January, so involved and painstaking has been the preparatory work incident to the marketing of a huge output that the long-promised Model "T" Ford car, was withheld until the first of this month before actually being launched. As announced three years ago, coincident with the introduction of the renowned Model "N," this machine is a light touring car modeled along the lines of safe and economical production which have earned for the Ford Motor Co. its eminent position in the field. Like the "N" car and its succeeding variations, this latest product of the big Detroit plant, is designed with a view to combining with extreme mechanical simplicity the most modern of structural advantages. In truth, the present result would appear to be quite as much a credit to the genius of Henry Ford as was the former achievement, though perhaps less spectacular from the point of view of the market.



FORD MODEL T TOURING CAR

The story of the car briefly told is as follows:

Engine: 4 cylinders, 20 horsepower; cylinders cast in block, integral with water jackets and upper half of crank case, the water jacketed cylinder head being a separate casting easily removable, permitting access to all working parts. Magneto generator, low tension, of original design, integral with the engine and driven direct by the crank shaft.

Transmission: Planetary gear, spur type, with large gears mounted on and forming part of weight of the fly wheel, which is back of the engine; unit mounting for gears and engine being an important feature; propeller shaft and live rear axle.

Lubrication: By a special splash system, the fly wheel being the distributing agent, oiling every part of the car except the wheels.

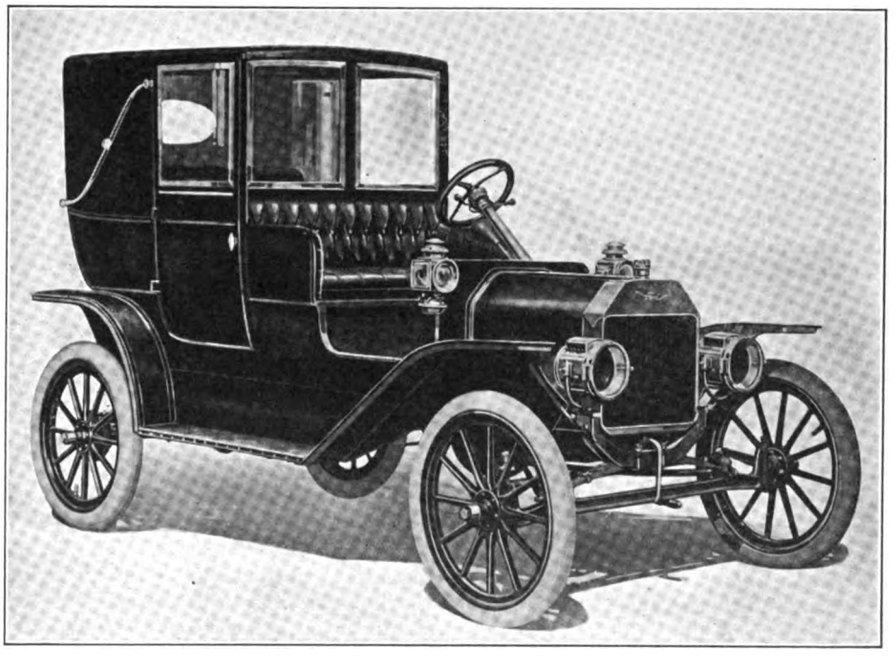
Suspension: By two inverted transverse springs; three point mounting employed in power plant, front axle, rear axle and gasolene tank.

The vehicle complete, carrying five passengers, running on 100-inch wheel base and weighing 1,200 pounds, is made to sell at the modest figure of $850.

Absolutely unique in detail is the arrangement of the power plant, which in one compact unit combines not alone the motor and transmission change gear, but such auxiliaries of the ignition and lubricating systems as commonly are mounted independently on the motor. The cylinder dimensions are 3¾ by 4 inches, bore and stroke, and, as just indicated, the entire aggregation of the 4 cylinders and the upper section of the crank case is cast integral. A second unit casting is the water jacketed head piece, the removal of which permits access to the piston heads and all valves and pockets. A third member forms the base chamber and extends rearwardly to the lower section of the fly wheel and change gear housing, also supporting the gears themselves.

The fly wheel, which is placed behind the motor, fulfills the unusual additional functions of carrier for the gearset and rotor for the magneto. The entire revolving group of these two systems adding to the weight of the fly wheel, reduces the otherwise necessary bulk of that member, and adds to the simplicity of the design very notably. The magneto, which is of Ford design, is of the low tension type, without rotating conductors and very compactly built. The rotor is a part of the fly wheel; the stator with its coils, is a fixed spider carried by the fly wheel casing. There is practically nothing to become disordered owing to the protected location of the device, and its certainty of action is increased by the elimination of all supplementary driving chains or gears.

Due to the agitation of the fly wheel in its casing, the lubricant which is carried in a liberal bath extending throughout the power plant, is thrown up against the sides of its container and drained into feed ducts suitably arranged to feed all bearing surfaces not directly affected by the splash of the wheel or the cranks themselves. An ingenious arrangement of partitions provides for the retention of a constant oil level in the system.



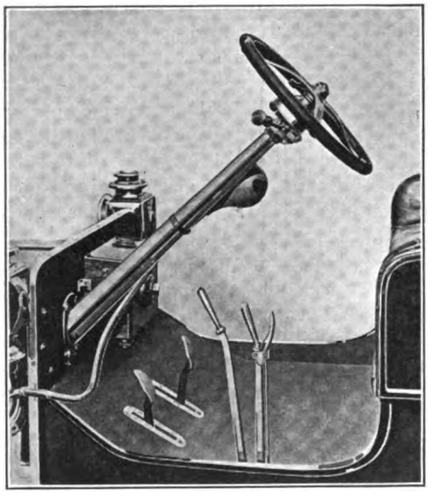
FORD MODEL T TAXIMETER CAB

The change speed gearing is of the familiar planetary type, the spur principle being adhered to, however, to the elimination of

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all internal gears. The high speed clutch is of the multiple disc type, and the low speed and reverse bands are of steel—fiber lined—and designed for smoothness of application with elimination of the tendency to drag when out of use.

Aside from the novelty of the double-spring suspension, a noteworthy point in the mounting of the chassis is the arrangement for carrying the load, particularly in the case of the rear axle. For this the spring shackles, instead of being carried by the axle tubes in the manner common where elliptical springs are used, are mounted by means attached to the hub flanges. Thus, practically speaking, the only load which must be carried by the axle proper is the dead weight of the differential group and of the rear end of the propeller shaft. Further than this, the central and upper portions of the springs instead of being perched on the frame in the usual manner, are fitted into the section of the inverted U-sectioned cross members of the frame, while the latter are bent upward slightly to conform to the natural shape of the springs. By this means the loosening of the springs at their upper point of fixture is made practically impossible, while the frame itself furnishes a reinforcement which serves a very useful purpose in holding the alignment of the leaves.

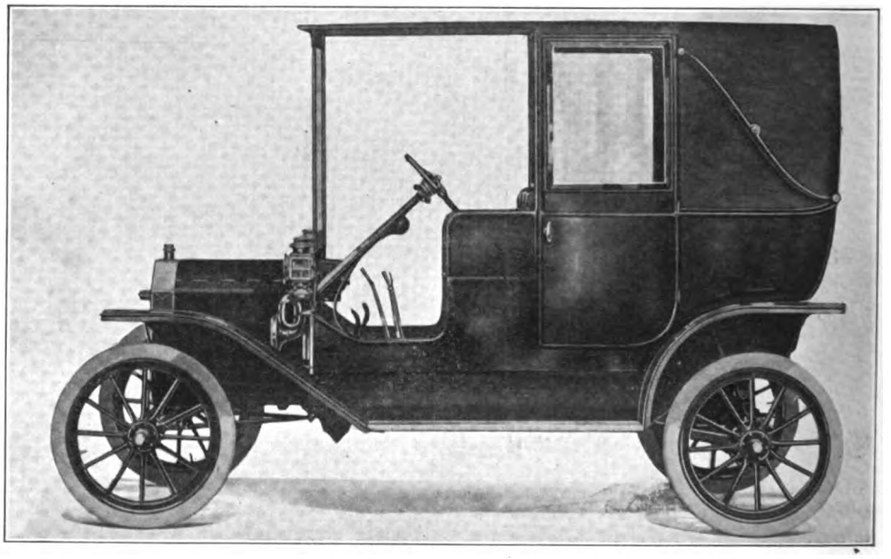


CONTROL OF FORD MODEL T

The braking equipment comprises the service band on the transmission, which is under foot control, and the emergency pair which expand in the rear wheel hubs and are actuated by the side lever. The wheels are shod with 30 by 3½-inch tires in the rear, and 30 by 4-inch in front. The wheel base is an even 100 inches. The gasolene supply is carried in a cylindrical tank mounted directly on the frame and under the front seat, an unusual feature being the use of three-point suspension in connection with this mounting.

The mehod of control is novel in that the left side has been chosen for the driver's position as being the more logical for American use. The forward speed movements are handled entirely by means of the pedals, while the emergency brake and reverse gears are manipulated by side levers. The motor controlling levers are carried just beneath the steering wheel and are accessible without removing the hands from the wheel.

The standard type of touring body, accommodating five passengers embodies the usual lamp, horn and tool equipment as shown on the previous page. Variations in body mounting to follow as soon as production facilities are complete, comprise four other vehicles as well. They are the coupe, landaulette, town car, and runabout and roadster. Deliveries on the first three in order are announced to begin on the first of next month.



FORD MODEL T TOWN CAR

Matheson Makes Big Price Reduction.

Not only is the 1909 line of the Matheson Motor Car Co., of Wilkes-Barre, Pa., to be distinguished by a new car to sell at about $3,000, but three of the five models of the past season are to be reduced $1,000 in price, while the other two will have a $650 reduction. This is made possible, according to a statement by the Matheson Automobile Co., the newly organized selling outlet for the Matheson factory's product, by the new policy which both the manufacturing company and the sales organization have launched upon, following the recent expansion of the factory's financial resources, and which contemplates the doubling of the output and handling of its sale on a smaller margin than heretofore. With the exception of the new car, which will be shaft driven, all of the Matheson models will be like their 50 horsepower chain driven predecessors. The touring car, which up to this time has sold for $5,500, will be listed at $4,500, while the limousine and landaulet models, which have heretofore been held at $6,500, will list at $5,500. The roadster and tourabout models have in the past been $5,000, are to be reduced to $4,350.

Paris Promises Motor Push Carts.

Motor push carts may seen be seen on the streets of Paris if the schemes of one Lionel Gervais are brought to fruition. Gervais has invented a system of motor propulsion for two-wheeled vehicles consisting of a small motor mounted at one end of the "chassis" and driving a countershaft placed at the other by means of the historic flat belt. From the ends of the countershaft, side chains lead to the wheels. By means of a lever mounted on one of the two handles by which the vehicle is balanced and steered, it is possible to shift the belt to and from a loose pulley to start or stop the vehicle. The system is designed for application primarily to replace animal traction in vehicles of this type.

When Valve Springs Become Weak.

Although there is small liability of a well made spring losing its temper or becoming permanently "set" through continuous use, still it occasionally happens that one or more of the valve retaining springs on a motor become weakened as a result of long continued use and so produce irregular running. In the case of a very old motor which has lost considerable power, a new set of springs sometimes will prove a wonderful help in restoring it to standard.

Motor Van for Race Horses.

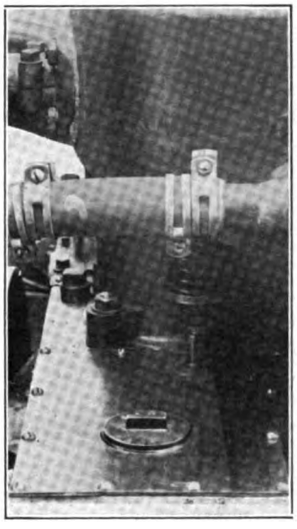
Among the odd uses to which the commercial motor vehicle is being put abroad, may be mentioned a horse-van which is in use near Paris for the conveyance of racing studs. This machine, which may be described as a cross between a horse ambulance and a touring car, is of rather elaborate construction and provides safe and comfortable quarters for the animal passengers, as well as rapid transit.

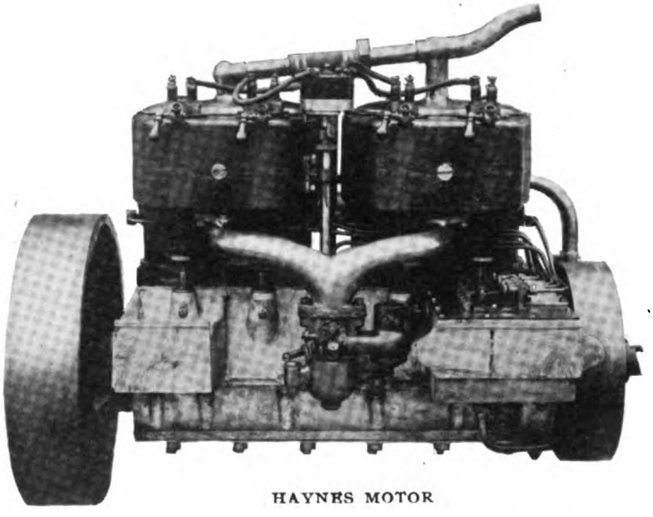
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FEATURES OF HAYNES 1909 MODEL

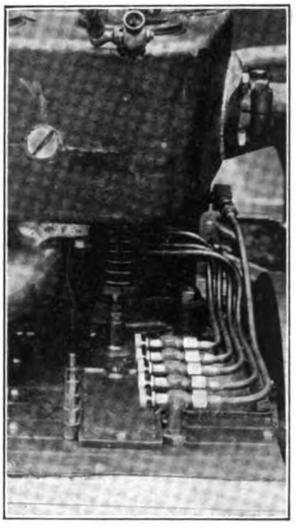
Changes Include Increased Wheel Base and Larger Wheels—Noteworthy Characteristics that Have Been Retained.

As was announced some little time ago the Haynes Automobile Co., Kokomo, Ind., is preparing to make but one model during the forthcoming year, that to be known as Model "X." Final details of this car reveal it to be a successor to the current Model "W,"in so far as the retention of its more conspicuous and original details are concerned, but differing from it in a number of important characteristics.





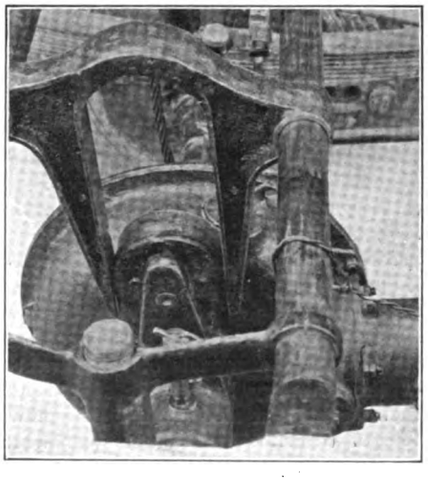
HAYNES MOTOR



Considered merely as a successor to Model "W," it has these modifications: Wheel base increased from 106 to 112 inches; wheels increased in diameter from 34 to 36 inches; roller bearings employed in mounting the crank shaft increased from 2 to 4; the steering column enclosed in a brass housing instead of a plain one, and the hand wheel increased in diameter from 16 to 18 inches; spring clearance raised from 4 to 7 inches; and as additional equipment the use of a gas tank, speedometer, trunk rack, tire irons, and the Bosch magneto.

Considered in the more satisfactory and fairer light of a new machine, it has a number of prominent features which are worthy of special mention. Among these and in connection with the motor the use of the double fly wheel should be indicated. The fact that this detail is held over from the previous model should be regarded as significant of its steadying effect upon the car as a whole and its influence in prolonging the life of the motor in particular. Outside of this peculiarity, however, the motor has a number of features which recommend it to consideration.

The cylinders are cast in pairs with water jackets integral—both inlet and exhaust pockets being surrounded with a good body of water. The bore and stroke are, respectively, 4¾ and 5 inches, a combination which yields an A. L. A. M. formula rating of 36.1 horsepower. The valves are disposed on opposite sides of the cylinders and are actuated directly from below. Each piston is fitted with three composite rings, each consisting of a broad basic ring, outside of which are two narrow thin rings broken at opposite sides and set quartering the break in the large ring. The latter furnishes the pressure to expand the others while they are sufficiently flexible to conform to the contour of the cylinder under all circumstances. The connecting rods are of I-beam section the wrist pin bearing being fitted with an adjustable bushing. The crank shaft is mounted on roller bearings and is machined from forged nickel steel stock, ground and polished.



HAYNES TORQUE ROLLER

The crank case is built up in the form of a three-part aluminum casting, the upper section carrying the cylinders and supporting the motor by means of four integrally cast arms. A unique feature of the latter is that the two forward members are employed as housing and retaining reservoir respectively for the lubricator and oil supply. The right hand member, as shown by the accompanying illustrations, is cast in box shape and in it is carried the McCord oiler, which is gear driven from the crank case. The corresponding compartment on the opposite side is used for an oil retainer, and is connected with the lubricator by means of a cored passage leading to the pump. Five leads carry the oil to the respective cylinders and to the crank case, which is divided into four independent pits, to guard against the banking of the oil when the car is running over inclined roads. The half-time gears and the gear drives for the auxiliaries—oiler, water pump and magneto—are packed with grease in a separate compartment.

A complete and independent dual ignition system is employed. Two sets of spark plugs, carried over the inlet valves, are used, one set being fed with current from a high tension magneto, while the other is supplied from the ordinary battery and dash board coil arrangement, the timer for which is mounted at the top of a vertical shaft set midway between the two cylinder groups.

Several points of novelty are embodied in the arrangement and construction of the transmission system. The clutch is of the contracting band type, and is so contrived as to form what is practically a universal joint between the crank shaft and the line shaft of the transmission. The clutch drum, which is of bronze, is supported in the fly wheel by means of a four-arm cross, each of the cross ends being forked to engage lugs upon the fly wheel. Coiled springs are interposed between the lugs and the forks to cushion the driving action and thus relieve the gears from many of the sudden strains which they must otherwise receive. A heavy arm keyed to the clutch shaft sup-

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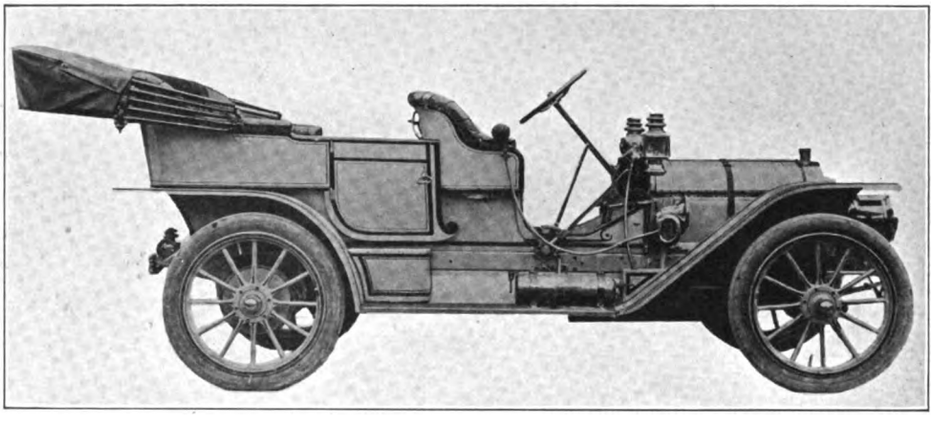
ports the band, and the subjoined mechanism of engagement is so contrived that when disengaged, it is impossible for the band to drag.

Three forward speeds with direct high tension are afforded by the gearset, which is of the sliding gear, selective type. An original feature which has been employed in these cars for several years is the ratchet drive of the master gear on the counter shaft, whereby the latter is permitted to overrun the main shaft when changing from higher to lower gears, thus doing away with the danger of stripping the teeth. Both main and counter shafts are mounted on specially designed roller bearings, and are provided with stuffing boxes to prevent the lubricant from exuding from the case.

The final transmission from the driving shaft to the rear axle is through the "roller pinion" drive, which also is a distinctive Haynes feature, and which corresponds to the "pin and lantern" gear, familiar in old-time mill practice, except that the engaging members of the driving gear consist of rollers which secure a true rolling contact at the driving point. Another original feature of the rear axle group is the torsion resisting member which replaces the torque rod of common practice. As shown in the smaller illustration on the previous page, this consists of a short arm-like extension from the upper part of the differential housing, which carries a stout roller. The latter is engaged by the two faces of a vertical fork extending downward from a pair of cross-frame supports and braced in such a way as to resist any tendency on the part of the axle housing to turn. The provision of the roller, of course, permits the frame to move up and down on the springs without in the least affecting the position of the axle.

In the braking system, provision is made for the employment of water-cooling under stress by hard running, by the construction of the drums in closed form, and the application of the brakes upon the outside. The emergency and running or service brakes, are both of the contracting type. The shoes are of the two-part type, each part being supported at two points, so that there is no possible danger of dragging so long as the adjustment is correct. The emergency set employs a working face of 1½ inch width, while the service brakes are 1¼-inch face width. The drums upon which they are mounted are 14 inches in diameter.

Four types of body are mounted on the standard chassis, namely the touring equipment, which is here shown; the runabout, which is of conventional mold, but has its seat about 6 inches further back than that of the touring car, together with an optional rumble equipment seating one or two passengers according to the fancy of the owner; the "Hiker," which differs from the runabout mainly in having no rumble accommodations, and being arranged more on racing lines; and the toy tonneau. In this the front seat is placed in much the same position as in the runabout, but the rear seat is brought forward from the position given it in the ordinary touring car and also is narrower and accommodates but two passengers. The body is thus a sort of combination between the touring and runabout types, and satisfies the requirements of the light and handy tourist vehicle.



HAYNES MODEL X

Panhard Plans Two New Models.

In connection with the announcements of the foreign makers each year, great interest always is evinced in the Panhard models, particularly within the past two or three years when that historic mark has been graced with more novelty than ever before since its introduction. This season, it appears, is to be no exception to the rule, for the plans for the 1909 product which has just begun to be discussed includes not simply two new models of types rather out of the ordinary line—at least considering their origin, but also the use of a new system of transmission change gear which is planetary in principle.

Of the two new models, one, it is said, is to be a taximeter cab chassis, designed for the special purpose of competing with the Renault cabs, which are so widely used. The other is to be a six-cylinder light car of about 20 horsepower. The new change speed gear is the invention of Henroid, whose designs have always been inclined toward the radical, and is designed to be carried by and practically enclosed in the flywheel of the motor. Although it is familiar in type, it is said to be a new development of the planetary idea. It has been under experimental investigation at the factory for several months, and is mentioned as a probable feature of the 1909 line.

Why the Wire Rope Requires Watching.

Happily the use of wire rope as a means of connecting the emergency brakes with the actuating lever is passing out of popular use. At the same time on old cars or the newer machines which are still in use in which this construction is employed the dangers attendant upon its use are still encountered. In addition to the need of keeping the cable well lubricated in order to assist it in equalizing the strains on the brake bands, it is important that its condition be watched with extreme care, as the breaking of even a single strand of the wire may involve the clogging of the rope when in action, and invariably forestalls an ultimate breakdown. After the first strand breaks, the complete rupture follows with surprising suddenness. A disadvantage of the system which makes it all the more imperative that it be watched with great care is that the breakage of the cable disables not one, but both brakes.

About the Form of the Tank.

Although the careful driver may never reach a point where the last pint or so of gasolene in the tank is necessary to the running of the machine, still that is a contingency which arises with sufficient frequency for it to be worthy of consideration of the designer. For this, the special emergency compartment tanks serve a useful purpose. Considering the fact that at any time the car is liable to be driven over a sharp incline at the side of the road and tipped sufficiently to throw the wash away from the outlet it is surprising that so many makers still continue to equip their cars with plain open tanks having perfectly flat bottoms. The simplest method of avoiding difficulty from this source, namely, the use of tanks with inclined bottoms, is even less common than the use of the two-compartment tank.

Keeping the Spring Yokes Secure.

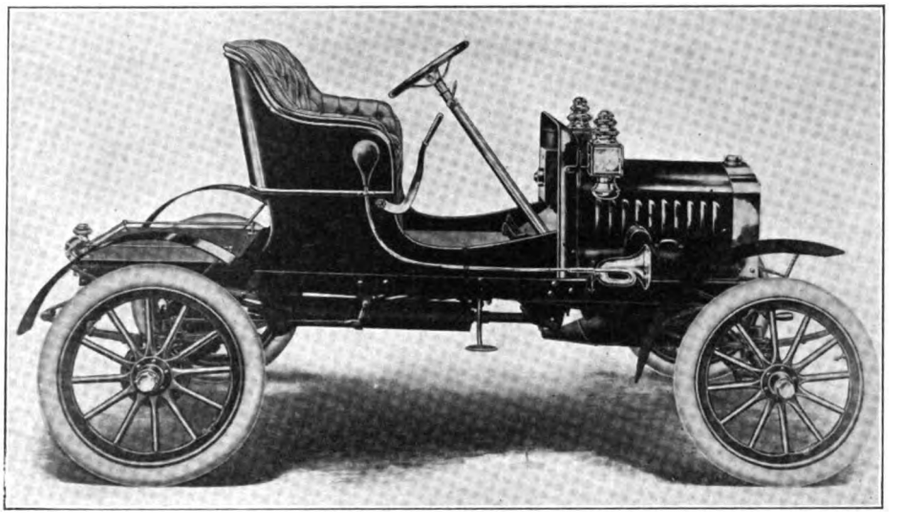
Whenever the car is being given a thorough overhauling the spring yokes should be gone over carefully and the nuts drawn up evenly and as tight as is possible without stripping the threads. Even in the case of springs which have been in use for a long time and have been drawn up in this way repeatedly a certain amount of settling takes place so that it is possible to move the nuts a fraction of a turn. Unless the springs are firmly held there is danger that the leaves will work out of place and be subjected to unequal strains through this displacement.

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MAXWELL MODEL IN REDUCED SIZE

"Junior Standard American Runabout" Retains Characteristics of Its Big Sisters —Modest Price a Feature.

In introducing a new model similar in construction to one which has been exploited successfully in the past, but of larger size, the maker is put to the trouble not merely of developing a new quarter of the field, but also of proving satisfactorily that his design will stand enlargement. The reverse process, however, is attended with no such embarrassing features and the diminutive successor to a known proposition is almost certain of its reception by the public. On this safe principle the Maxwell-Briscoe Motor Co., Tarrytown, N. Y., makes announcement of a new achievement in the "Maxwell Junior Standard American Runabout.' Apart from its other characteristics the feature most calculated to draw attention to this little machine is its price, which is $500, fully equipped and ready to run. And, indeed, its specifications would appear to place it among the "sensations of the season."



MAXWELL JUNIOR STANDARD AMERICAN RUNABOUT

That it follows in every essential detail the well known characteristics of Maxwell construction is another point in its favor. It is thus quite on a par structurally with other members of the same lineage in that it has three-point suspension, unit mounting for the entire power plant, thermo-syphon circulation for the cooling system, multiple disc clutch and metal bodies.

In respect to its specifications the chief interest depends upon their dimensional value rather than the introduction of new or unexpected qualities. Thus the motor is of the horizontal-opposed pattern, its twin cylinders measuring 4 inches bore and stroke, and the rated output is 10 horsepower. The crank case and change gear housing is a one-piece aluminum casting. The cylinders, piston packing rings and time case cover are of cast iron—the latter being so constructed as to permit of removal without disturbing the adjustment of the timing. By means of a "hot-air" ring surrounding one of the cylinders the air supply for the carburetter is thoroughly warmed before entering the mixing chamber. The carburetter itself is of standard Maxwell design and offers the desirable feature of automatic compensation of the charge. Lubrication is by positive feed from a compression oiler mounted on the dash, and each cylinder receives an independent supply. Jump spark ignition is used, with the ordinary double coil and battery arrangements.

The transmission comprises the multiple disc clutch enclosed and running in oil, planetary change gear affording low and reverse speeds in addition to the direct high, and propeller shaft equipped with two universal joints and leading to the live rear axle. The change gear and clutch are mounted in the main housing of the power plant, and while rigidly connected with the engine, receive the full benefit of its three-point support. The universal joints of the shaft are lubricated by a special provision which reduces the attention required from the operator to a minimum.

Control is effected by means of the steering wheel, spark lever directly beneath it, foot actuated throttle and lever and pedal arrangements for the clutch, gears and brakes. The latter are double acting in principle and apply to the rear hubs.

The frame is of hot riveted pressed steel; the springs are full elliptical, both front and rear; the wheels are 28 inches diameter, shod with 3-inch clincher tires; the wheel base is 82 inches. The weight is listed at about 1,100 pounds. Tankage is provided sufficient for 100 miles of average running, the gasolene, oil and water capacities being respectively, 10 gallons, 1 quart and 2½ gallons.

The body which is of the pure runabout type with flat deck back of the seat, is made of metal with stamped moldings, divided seat and is sold equipped with ornamental deck rail in the rear. The equipment, which is included in the price, comprises dash and tail lamps, horn, tool and tire kits, and irons for a top may be had as an extra.

Five other models compose the remainder of the line. The Model "LD" is a light runabout of much the same proportions as the "Junior" model. It is more powerful, a little larger, more fully equipped, and therefore more luxurious. It is driven by a 12 horsepower motor, has 84-inch wheel base and 30-inch wheels, 3½-inch tires, and comes with this equipment: top, gas headlights and generator, oil side and tail lamps, the usual utensils and a magneto. As an option, it may be had with a special body of the rumble seat order, but minus the top.

Model "DA" is the four-cylinder, 24-30 horsepower machine which is already so well known in the markets. It is a light touring car, having 32 by 4-inch tires, 104-inch wheel base, and selling with an equipment into which the mageto is counted. Similar to it in general respects is Model "KA," which has a folding rear seat of the rumble order, and hence fulfills the requirements of a runabout.

A 20 horsepower motor of the double opposed pattern is employed in models "HD" and "Dr." The former of these is a light touring car running on 96-inch wheel base, and selling with a cape top in addition to its other equipment. The "Dr." model is designed and built with the evident intention of fulfilling the needs of the professional man who must be out in all weather, and so is provided with a top, and having ample power and wheel base, is well suited to the requirements of all-weather service.

How to "Convert" a Plain Nut.

It frequently happens that certain parts of the machine which have to be adjusted often are provided by the maker with plain nuts when wing nuts would serve to better advantage. In such cases the driver can readily "convert" a plain square or hexagonal nut by making a saw cut across it and soldering in place a couple of thin steel blades of appropriate shape. A simpler method is to drill a small hole through the long diameter of the nut, entering the drill at one of the corners, and driving a small pin into either side.

Muffling the Sound of a Noisy Gearset.

It is an easy matter to muffle the sound of a noisy gearset by stuffing the case with thick grease. Its absolute suppression, however, is only to be accomplished by the use of a new set of gears in place of those which are worn down sufficiently to give excessive play. Unlike other elements of the mechanism, the gears are not subject to adjustment for wear.

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TO GUARD AGAINST GARAGE FIRES

Comprehensive Ordinance Proposed at Convention of Fire Chiefs—Rules for Location and Regulation.

Declaring gasolene to be "an enemy of life and property far more terrible than dynamite, guncotton or nitro-glycerine," J. A. Archibald, fire chief of Cincinnati, O., at a recent convention of chiefs of fire departments, proposed a complete set of garage regulations which are of interest as embodying the ideas and experience of a veteran fire-fighter who has made a special study of garage phenomena and the things that happen as a result of the peculiar qualities of gasolene vapor. Its greatest danger, he declared, lies in the fact that the unseen vapor "hunts its way into every crevice, driving out the air with its heavier weight and finally reaching its opposing force with that death dealing effect only too well known to the fireman."

After discussing some of the chemical and practical aspects of gasolene, Archibald offered his suggestions for rules for garage conduct and regulations for equipment that to his mind are calculated to protect alike the garage, its patrons, its neighbors, and the public. His recommendations take the form of a proposed ordinance, which in addition to the usual provisions, contains one or two suggestive and valuable ideas in this connection:

No garage should be carried on, except in a fireproof building, not more than three stories high. No garage should be maintained within the came square with hotels, theatres, school houses, hospitals, or other buildings designed for public purposes, nor in any building, of which any part is used as a dwelling. Heating should be done by steam or hot water; the boiler room to be fire proof, and all openings between it and other parts of the garage to be protected by double "standard" doors; no stoves, forges, torches, or furnaces, and no open-flame fire, except as provided in the fireproof boiler room. No lights, except electric, incandescent lights, properly inclosed in vapor tight globes, protected by approved wire-guards, should be allowed in any garage. All of these volatile substances should be stored in closed tanks. No storage or garage building should be placed, installed, constructed or maintained, until an application for permission to do so, with plans and specifications showing a full detail of location, construction and connections, shall have been filed with and approved by the city inspector of buildings.

No storage tanks should be placed, constructed or maintained under a public sidewalk or in a sidewalk area. All storage tanks should be constructed of steel and coated on the outside with tar or other rust-resisting material. The material of all tanks should be at least 3-16 inch thick. No tank should have a capacity in excess of 250 gallons, and all its joints must be tightly caulked. All pipes connected with the tank should be at the top thereof; all tanks should be so buried that no part of their top shall be less than 2 feet beneath the surface of the ground, at the point where the tank is located; all tanks should be completely cased, and surrounded with 12 inches of Portland cement, well tamped in place. All storage tanks should be provided with a vent pipe of 1 inch or large wrought iron or steel pipe, galvanized, with heavy cast iron fittings and screw-joints made with litharge and glycerine, and should be connected with the top of the tank. All tanks should be provided at the top with a screening of 30-mesh brass wire, with goose-neck attachments; all vent-pipes must be carried to the outer air, well braced in position and extended 2 feet above the roof of all buildings within a radius of 50 feet. It should be unlawful to carry more than 500 gallons of these substances on hand at any one time, and then only under the conditions above specified.

All tanks should be provided with a filling-pipe; the filling-pipe should be of 2-inch or larger steel pipe, galvanized, with heavy cast iron fittings and screw-joints made with litharge and glycerine, and no unions or flange connections should be permitted. The filling pipe should be provided with two screens of 30-mesh brass wire, placed, one at or near the tank-connection and one just below the filling cock or valve; the filling pipe should be closed at the intake by a filling cock or valve, the opening of which should be closed by a screw-tap, when not in use; the filling pipe should connect at the top and extend down to the bottom of the tank, and should be laid at a uniform grade, so that it will drain entirely into the tank; the intake-end of the filling pipe should not be within any building and should terminate in a covered box of heavy iron, which should be the level of the ground and kept locked when not in use.

Not more than 10 gallons of volatile inflammable liquid should be kept in vessels in a garage, and then only in approved safety cans constructed of metal, self-closing and of a capacity of not more than 5 gallons each. When not in use, these cans should be placed and kept in drip-cans, and, in garages maintaining a pump house, should be placed and kept in that. In lieu of the above described safety cans, portable filling-tanks of approved construction, not to exceed 50 gallons in capacity, may be used for transporting volatile inflammable liquids to and from the storage tanks for filling and charging the vehicles. The said portable tanks shall be supported on rubber hose attachment, not to exceed 8 feet in length, equipped at the end with shut-off valve with ground key.

All fire or lights on such vehicles or under their boilers should be extinguished upon the entry of the vehicles into the garage within 10 feet of the threshold, and should not be lighted while it is in the garage, until it is brought within 10 feet of the threshold of the exit. Movable incandescent lights in a garage should be protected by vapor tight globes, inclosed in approved metal guards, and should be fitted with keyless sockets, and all electric switches and cut-outs shall be permanently located at least 4 feet above the floor and in an approved cabinet. Where electric charging apparatus is installed or placed in a garage, it must be inclosed in the same manner as herein specified for the boiler room.

No person should smoke in the garage, ... The reason for such restriction is quite obvious. Therefore, a notice in large letters, to read, "No Smoking," should be kept displayed in a conspicuous place and manner on all floors and at the entrance of all garages.

No volatile inflammable liquid should be used in a garage for cleaning or for any other purpose whatsoever other than filling the tanks of such vehicles. No such liquids should be allowed to run upon the floor or to fall or pass into the drainage system of the garage; nor shall any such liquid be put into or removed from the tank of the vehicle, while any light or fire on the same is burning, and no such liquid should be carried or kept in open vessels in any garage in any city.

On the floor of every garage there should constantly be kept and maintained conveniently receptacles filled with sand, to be used in absorbing waste oils on the floors. In addition, sand should be kept on every floor in boxes or buckets of approved construction, provided with hand-scoops, to be used for fire extinguishing purposes only—one such box or bucket for 800 square feet of floor area or fraction thereof. Beds of sand, or metal drip pans filled with sand, should be placed under every such vehicle kept on the floors that are not fireproof. One 3-gallon carbonic acid gas fire extinguisher of approved construction should be provided and conveniently located for each 1,000 square feet of floor space, or fraction thereof. Self-closing metal cans, set firmly on 4-inch legs should be kept on the floors of every garage, into which all inflammable waste material should be deposited. Calcium carbide should be kept in airtight buckets at least 6 inches above the floor and in an airtight container provided with a securely fastened cover. If there is a boiler compartment, the container should be located within it.

Movement for International Registration.

In connection with the international conference which is being held in France this week for the purpose of drawing up regulations to facilitate international motor car travel, the plan of making car registrations and drivers' licenses valid in all countries will be advocated. The Touring Club of France submitted to the managing officials the following suggestion for the regulations:

"To accept as valid in France the permits or licenses or certificates granted by other countries both for the vehicle and for the driver. In countries where there are no such official papers, to accept as valid in France the certificates given to their members by the principal motoring clubs or associations. To institute a special registration number, to be known as the Customs number, and easily identifiable, to be fixed by the Customs on entry, and restored to the Customs on leaving."

Automobiles to Expedite Mail Collection.

Owing to geographical location, Indianapolis, Ind., has to close its outgoing mails very early, and heretofore the last collection from the streets boxes in certain parts of the city has been made about 6 p. m., much to the disgust of the people who dictate their letters at 5:59 or thereabouts. To placate the grumblers, the postmaster asked Washington for permission to use automobiles for later collections, a request which resulted in a Department expert coming to look into the matter. He has agreed with the postmaster that two or three motor cars would make it possible to collect until as late as 8:30 where heretofore it has been collected at 6 o'clock, and if satisfactory machines can be bought at a moderate price the Indianapolis post office will be allowed to make the purchase.

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DEFECTS IN STEERING SYSTEMS

Sources of Danger to the Gear—Difficulties of Adjustment—Some of the Serious Causes of Trouble.

It is several years since designers and students of the problem of automobile construction in general came to consider themselves thoroughly familiar with the intricacies of the steering question. Yet though they may be fully understood, the fact remains that the usual type of steering gear still exhibits numerous faults, some of which are of so serious a nature as to merit consideration. Thus, although the common method of connecting the front wheels is supposed to give absolute rolling motion when the vehicle is traveling over turns, it does not always do so in actual practice. Further, while the method of inclining the front wheels is such that their points of contact coincide with the center lines of the steering pivots, it is a fact that many steering groups constantly tend to spread, that is to say, the wheels have a tendency to diverge. This tendency, of course, must be resisted by the connecting rod, and this ordinarily frail member is thus in constant tension or compression according to whether it lies in front of or behind the axle.

In a rather exhaustive treatment of the subject the London Autocar criticises the prevalent methods of steering at some length, incidentally pointing out a number of minor defects, several of which are capable of being remedied without serious difficulty. Indeed, several of the points emphasized are of such an important nature as to merit far more serious consideration than they ever have received.

The intense and rapidly repeated road shocks furnish the most important source of danger to the gear as well as the most difficult to guard against. In this connection the authority cited observes that "as every road shock tends to deflect the wheels, it is necessary to provide some mechanism which will resist such deflection without throwing the strain on the arm of the driver, and this is most easily accomplished by the use of the customary worm and sector gear.

"This gear is not really irreversible," continues the author, "though it is usually described as being so, and, as a matter of fact, if a really irreversible gear is fitted, the steering is very uncomfortable.

"It would be perhaps naturally anticipated that a truly irreversible mechanism which did not allow any motion to be transmitted from road wheels to hand wheel would absorb all shocks, and therefore be extremely comfortable, but, as a matter of fact, though the shocks are absorbed, the rigidity of the gear renders it impossible to 'feel' the road, and after turning a corner or swinging out to pass another vehicle the return to the straight course cannot be obtained by the same natural and easy motion possible with a gear that is not quite irreversible.

"But the worm and sector, though no doubt the best mechanism to use, is never made strong enough for the work it is called upon to perform. Owing to the vast majority of steering motions only taking place over a small portion of the total lock, any gear will wear more rapidly at the center of its motion than at the extremes, and therefore it is almost impossible to provide a positive adjustment which will take up wear at the center without making the gear stiff on the locks, yet knowing this, designers still continue to make gears of the same size and pattern year after year.

"Why should not the worm and sector be made double or treble the size that they usually are? There is plenty of room in most chassis for a very much larger steering box, and even if there were not it would be well worth while to alter the rest of the mechanism to permit of one being fitted.

"Every manufacturer must know that his cars will be steered improperly in garages and coach shops, and yet even in the light of this knowledge he does not design his gear to stand the ill-treatment it is certain to receive. Not only are gears never made strong enough, but they are very seldom made accurately. If a worm drive for a back axle was being produced the worms and worm wheels would be most carefully cut, ground, and hardened, but the steering gear which is continually absorbing shocks, even if it is not in constant motion, very rarely has correctly shaped teeth, let alone hardened or accurately fitting ones. The gear is more or less slack even when new. A worm gear will bind unless the teeth are correctly in mesh, and though a gear may move with perfect ease when there is no strain on it, as soon as any pressure is applied the gear will stick. Thus a gear which appears to be perfect when the wheels are jacked up, may be either always tight, always loose, or tight and loose in alternate positions when in actual use.

"The worm and nut or screw gear suffers from exactly the same defects, and possesses the additional disadvantage of requiring another joint to connect the nut itself with the steering lever.

" . . . . If the same care was taken over the machining and assembling of the gear as is taken over other parts, looseness or stiffness would never occur. Also it may be added, the worm should be properly supported and provided with adjustable thrust bearings. In quite a number of gears the only bearings are at the extreme ends of the steering column, and when this is the case the spring in the tube of which the column is made will allow the worm to spring partly out of mesh with the sector, and when there is no adjustment to the thrust, as soon as a little wear has taken place not only will there be lost motion, but the worm will be able to move up and down slightly, causing rattling in the box accompanied by snatching at the wheel.

"Even assuming that the gear itself is incapable of improvement, there still remain quite a number of details which are usually so badly designed as to be absolutely dangerous. Firstly, the joint pins of the tie rod are seldom large enough, also the forks at the ends of the rod are frequently weak, and it is only in very rare instances that any adjustment or proper means of lubrication are provided. Even though the actual motion about these pins is small, there is a continuous strain the whole time the car is running, which strain varies as the road shocks vary, and the constant blows on the pins are equivalent to quite a considerable amount of motion. It is hardly necessary to describe the methods by which these points can be improved; it is simply a question of spending a little extra money in the first instance, but the amount is so small by comparison with the total cost of the car and the importance of the parts is so vital, that the wonder is manufacturers can afford to neglect them. . . . .

"The advantages of the ball joint in comparison with the pin universal which was employed on the old Wolseley cars is that it is easy to make it so that the wear is automatically taken up by springs. The ball should most emphatically always be fitted on top of the stub axle and at the side of the steering lever, so that the steering rod will not easily drop off if the ball becomes loose in the cups. . . . .

"All the minor faults of steering mechanism, such as wandering of the road wheels without movement of the hand wheel, spring in the connection, backlash, and consequent snatching at the wheel, are due simply and solely to the designers not realizing the immense strains to which every portion of the gear is subjected. Unfortunately, the weakness is not confined to the joints alone; the usual tubular connecting rods are none too strong, and breakage of the stub axle arm sometimes occurs, particularly where it is made to carry both the connecting rod and tie rod. Where springs are employed they are seldom of sufficient strength; tie rods, connecting rods, levers, and the worm gear itself, each and all have a heavy load to carry, and they are rarely strong enough to carry it without a considerable amount of springing and bending, rendering the steering uncertain in action and very uncomfortable when running fast over rough surfaces.

"The trouble does not altogether lie in the design, for, as has already been mentioned, bad workmanship is frequently met with even on quite good cars. A typical example of careless fitting is the frequency with which cars will lock over further on one side than on the other; the stop which limits the motion may occur at any part of the gear, but it is usually in the worm box, and it is only necessary to set the sector properly to obtain equal lock. Also

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if the steering lever is not vertical and if the stub axle arm is not at right angles to the connecting rod when the road wheels are in their middle or straight position, a definite motion of the steering wheel will give a different degree of lock, according to the direction in which it is made.

"Another frequently observed effect is what is best described for want of a better term as flapping of the front wheels. With almost every car there is a particular speed at which this action will be most pronounced. . . . . It is partly caused by spring in the connections, but is also due to an entirely different action. As the rear springs give to a bump, the frame approaches nearer to the axle, and as it recovers its original position the ball end of the steering lever will move up and down in a vertical line. The ball end of the stub axle arm cannot move similarly, and so it is forced to move to and fro, and the wheels must, of course, move likewise, so that when a continual bouncing is going on the wheels will flap.

"The shorter the connecting rod the more pronounced will this action become, and it need scarcely be added that such flapping tends to make the steering erratic. The fashionable large rake to the steering column necessitates a short connecting rod, and thus flapping is usually worse on new cars than on those of older pattern."

Look at the Gear Lever Before Cranking.

Frequent accidents in which a car runs away when the starting crank is turned emphasize the importance of always looking to see that the gear lever is in neutral position before attempting to start the motor. While it rarely if ever happens that a car is left by the driver with the gears engaged, the levers are sometimes manipulated and moved by others and are left by them in such a position that the starting of the motor means the starting of car also, an experience which generally results in the man at the starting crank being run over or jammed against the garage wall when he begins operations.

Loose Cams a Source of Noise.

An obscure and totally unexpected cause for irregular and noisy running in a motor which otherwise appears to be in good condition, is a loose cam. This difficulty, of course, only occurs in machines in which the cams are made independent of the shaft and pinned in place. Where this is the case it sometimes happens that a worn key or a loosened taper pin may occasion considerable difficulty of the sort indicated.

Care in Resetting Timing Gear.

When resetting the timing gear of a motor, it is well to make sure that the two-to-one gears are tightly keyed in place on their respective shafts. Otherwise there is liability of more or less uncertain action, not to mention the probability of a clatter in the valve gear.

ECONOMY IN MOTOR BUS GARAGES

Consular Report Describes Model Establishments in England—Suggestions About Use of Fuel and Oil.

Out of the fullness of British experience in the handling of motor omnibuses, American Consul J. Perry Worden, of Bristol, has prepared an extensive report dealing with the costs and administration of such promising undertakings. While much of the matter treated is already common knowledge in this country those portions which deal with the housing and care of the vehicles are of interest as indicating how the objects of economy and prompt service may be served to the best advantage, as much by the convenient arrangement and equipment of the garages as by careful use of supplies.

"A careful study of several of the best motor-bus garages in this part of the country leads to the conviction that if one would lay out a model garage it might be on a scale where the vehicles are placed ten abreast in rows of two, with sufficient yard space to enable them to turn in and out of the shed," says Consul Worden. "The effect of this arrangement is to reduce the movement of the vehicles to a minimum, since, at the most, but one vehicle has to be moved to get any other bus out of the shed.

"Most good motor bus workshops in England are situated near, if not next to, the office and near the entrance to the garage, and are equipped, of course, with suitable outfits and tools to enable the repairs to be carried out cheaply and expeditiously. There are lathes, small drilling machines, shaping machines, grinders, blacksmiths' forges, and wheel presses for re-tiring. Pits are provided in the shed, under the four vehicles next to the workshop, for facility in repairing and overhauling, and also under the third and fourth rows for the purpose of reblocking the brakes, etc., of the service vehicles in case all the other pits are occupied by vehicles under repair.

"At the end of most sheds is left a space that can be partitioned off and walled in, where bodies of the vehicles can be repainted and revarnished. Near the gate to the shed, perhaps on the left side coming in, will be found the best place for the petrol and filling tanks isolated from the main building. The carbide store is usually just beyond the petrol store, and here, and here only, if one would be cautious, all generators should be recharged. . . . .

"As the petrol bill on motor vehicles is one of the principal items of the running cost, every means should be adopted for studying and obtaining economy in consumption. One essential feature is to know the amount of petrol consumed by each vehicle, and means should be provided to this end. A petroleum-storage tank may be connected through a small semi-rotary pump to a smaller tank provided with a gauge glass, which is carefully calibrated in gallons. This small tank, which will hold about 40 to 50 gallons, is placed at such a height that the petrol will flow into the tanks of the vehicles by gravitation.

"Notwithstanding the fact that the consumption of petrol is a matter of vital interest, and that various and many carburetters, auxiliary air valves, etc., have been tried, nothing seems to have made the marked improvement for which many directors of garages are waiting and anxiously looking. One or two controllers are pronounced helpful, but there still appears to be scope for ingenuity in carburetters, especially if it be true that there is a possibility of a petroleum famine.

"This use of petroleum suggests the considerable use of lubricating oil, and reminds one that the most of oil used in motor engines is absolutely wasted. Of course some engines are far more wasteful than others, but careful supervision, coupled with the longer experience of drivers, should have, and in fact already has had, the effect of greatly reducing the amount used. The personal tendency of engineers in Bristol and vicinity is to use the cheaper oil, and in many instances they have found it to have answered equally well, but, for any great economy, the driver is the man who is to be looked after. Apart from the monetary consideration, over-lubrication is detrimental to the running of the engine, by oil getting on to the brakes, and also over the road. On some of the latest chassis models automatic lubrication has been introduced.

"Once the American capitalist, desirous of embarking on the motor bus enterprise, decides on the method of propulsion and the arrangement of the garage, he will do well to think of the average service of both vehicles and men. One of the most important questions that is to be decided first is the average proportion of the vehicles advisable to keep on the roads in everyday service.

"Experts seem to favor in a garage of 20 buses, as a maximum, the average use of but 13 buses a day, 7 days running, of an average of 90 miles per day, and to believe that this is the greatest number that can be kept on the road consistent with efficiency, where a regular service has to be run daily. This number would, therefore, allow two or three buses to be kept in readiness for changing over and for special service while the remaining five would be going through the hands of the day repair staff.

"With motor vans for freight, it is probable that the average percentage can be increased, but even in this case experience suggests that it would be a mistake to try and attain a very high percentage. Motor vehicles must have great attention paid to them at the hands of thoroughly efficient men, and unless this is done expensive breakages will occur which otherwise might have been prevented."

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LEGAL LOCKING OF IDLE CARS

Providence Police Raise Important Point Under Rhode Island Law—City Solicitor Makes the Matter Plain.

In launching upon a crusade for the strict enforcement of the automobile law, the police of Providence have come upon a stipulation that all cars must be provided with a locking device for use when the car is left by itself on the street. The paragraph in the statute reads: "Every motor vehicle must be provided with some device to prevent said vehicle from being set in motion and no such vehicle unattended shall stand or remain in any public place without first being made fast or locked." As the question was a new one to the police, particularly as to what constitutes a lock under the meaning of the law, the question was submitted by the board of police commissioners to the city solicitor.

An opinion written by Assistant City Solicitor Henry Cram explains exactly what is meant by the statute and what steps automobilists must take to comply with the law. In the course of his opinion, Cram says: "The paragraph referred to was a re-enactment of Section 6 of Chapter 1157 of the Public Laws passed in 1904. The intent of said act at the time of its passage in 1904 in my opinion was inasmuch as all electric automobiles and practically all gasolene automobiles could be locked by the removal of a plug, so-called, from the spark coil, and the engine of the vehicle could not be set in motion without the insertion of such a plug, that such a removal was a sufficient locking device.

"Since that time, however, a large number of automobiles operated by gasolene have what is known as a magneto in place of the spark coil, and the movement of the magneto is controlled by a switch and not by a plug as in the other cases. The engine may be stopped or started by moving the switch of the magneto and therefore in the case of cars using the magneto it would be necessary, in order to securely lock such car, to have some device to prevent the moving of the switch controlling said magneto.

"Your further question, will the setting of the emergency brake disconnecting the clutch from the engine, be considered a sufficient locking device provided some attachment is placed on the brake that will prevent such brake from being changed until after such attachment has been removed? I answer in the affirmative. If all the conditions of your question are complied with, certainly the car would be securely locked."

Cops Ordered to Forego Joy Riding.

In return for free automobile rides for themselves and their friends, several of New York City's bicycle policemen have been unduly lenient with a number of motorists, according to accusations which brought them on the carpet before Deputy Police Commissioner Bugher recently. Calling the members of the cycle squad into his office, Bugher told them he knew that many of them were getting petty graft in various forms, the most common of which, he declared, was the free use of automobiles on their day off. He quoted statistics of arrest to show that the mounted police and officers on foot were catching more automobile speeders than they were, whereas motorists were supposed to be their special charge. Many owners of cars, he said, were permitted to go at any speed they liked, through the streets and the parks, because they had fixed things up in a friendly way with the bicycle squad, while unfortunate drivers from out of town were promptly nabbed for speed proclivities.

Chicago Enforcing Wheel Tax Law.

If in looking out of her boudoir window the wife of an automobile owner in Chicago sees a uniformed policeman come to the door she will not necessarily feel called upon to faint in anticipation of dreadful news. In all likelihood it is simply a call to notify her husband, by means of a printed slip, that he has not paid his "wheel tax" on his motor car and that unless he fixes matters up pretty quickly with the city collector his case will be put in the hands of the prosecutor. The disparity between the number of Chicago automobiles registered for state licenses and the number on which the local tax has been paid has led the city to send the blue-coats to the houses of the delinquents as an earnest of its serious intentions in making the forgetful ones "contribute."

Three attempts on the part of Chicago automobilists to knock out the "wheel tax" which the city is collecting on motor cars have proved unsuccessful, the last defect having been incurred in the Circuit Court when Judge Honore decided against the plea for an injunction brought by the Chicago Motor Club. Attorneys for the club, however, have appealed the case, so that the fight against this form of shakedown is not yet over.

Canada Makes Concession to Buffalo.

Proximity to the Canadian border has in the past brought Buffalo motorists up against the bond requirement when automobiles come within the Canada lines. An arrangement has now been effected by the Automobile Club of Buffalo, by which it is only necessary for its members to show their membership cards in order to go over the Niagara frontier, without the putting up of a bond. Negotiations with S. W. McMichael, chief of the Canadian customs, brought about this happy result, the club taking all responsibility for any abuses of the privilege. It will, however, be necessary for the Buffalonians to take out Ontario licenses if they intend driving in the province.

FOR MOTOR TRAVEL IN NORWAY

American Consul Makes Suggestions on Starting Automobile Stage Lines There —Two Recently Put in Operation.

How local agents in the unpromising territory of Norway are striving to introduce and popularize the automobile by the establishment of regular stage lines, is told by American Consul B. M. Rasmusen, of Stavenger, who reports that the use of machines in his district has been very limited up to this time, though present indications point to greater activity in the near future. The requirement of improved transportation facilities for the inland regions is recognized, he states, and it is probable that the better traveled routes will soon be covered by automobile lines.

"The plan that is being pursued at present," he says, "is to organize an omnibus-automobile company, with permission to carry passengers and freight, according to a time schedule, over certain routes, the organization being promoted by some one who either has an agency already or contemplates securing one, and who is thus assured of making a sale when arrangements have been completed.

"There are two automobile routes, recently organized, operating between Stavanger and adjacent points. The machines used are of European manufacture and were purchased according to the plan described above. From reliable sources it has been ascertained that several automobile routes are now under consideration in different parts of this district.

"Firms contemplating entering this market," he adds, "would do well to have experienced representatives on the ground to study the wants and investigate the conditions pertaining to the trade. The field is new and the prize is likely to go to those who enter first with intention to win."

Big "D" for Diplomats in Massachusetts.

A big "D" on a Massachusetts registry tag next year will mean that the owner of the car is a "diplomat," or representative of a foreign country. The shore of the Bay State is so popular with the diplomatic set from Washington in the summer months that special provision had to be made for them, the Federal Government having long ago taken the position that official representatives from foreign countries are not subject to local law. Constables throughout the state will be instructed on this feature of international intercourse and the big "D" will give immunity from arrest. Dealers in the state will have a figure "O" before the number on their tags, and the coloring of the tags for 1909 will be a reversal from this year's blue letters on a white background to white letters on a blue background.

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The Week's Patents.

892,868. Clutch. Thomas G. Morse, Erie, Pa., assignor to Morse Iron Works, Erie, Pa., a Corporation of Pennsylvania. Filed Sept. 28, 1907. Serial No. 394,987.

1. The combination in a clutch, of a loosely journaled overhanging rim clutch member, radially movable jaws adapted to engage the inside of said rim mounted on the other clutch member, a rotatable sleeve, projections thereon adapted to move the jaws outward against said rim, and electrically actuated mechanism for rotating said sleeve, substantially as set forth.

892,948. Shield for Tires. Richard H. Faughnder, Sidney, Ohio, assignor of one-fourth to Charles Pearson and one-fourth to George Bustetter, Sidney, Ohio. Filed March 2, 1908. Serial No. 418,904.

1. A tire cover comprising a series of metallic plates overlapping each other at one end, a chain encircling the outer surface of said plates, said plates being pivotally connected to the links of the chain, and means for securing the plate to the rim, substantially as described.

893,032. Worm Gearing. Ernest E. Sweet, Detroit, Mich., assignor to Cadillac Motor Car Company, Detroit, Mich., a Corporation of Michigan. Filed Jan. 11, 1908. Serial No. 410,439.

1. In a gearing, co-operating intermeshing members constructed to provide a slight clearance between the intermeshing portions thereof when moved from the normal position, while being in full engagement at the normal position.

893,038. Air Pump for Inflating Pneumatic Tires. Octave Vadam, Paris, France. Filed Jan. 15, 1907. Serial No. 352,414.

The combination in an air-pump of a plurality of pairs of oppositely placed cylinders, pistons and rods for the cylinders, a central operating shaft around which the cylinders are arranged symmetrically, an actuating cam on the shaft, common base plates for the cylinders at each end of the pump, said base plates having ports and channels adapted for conducting the discharge of all the cylinders to a common outlet, rods connecting the base plates at opposite ends adjustably and holding the cylinder, piston rods and cams in operative relation, a pipe connecting the air channels in the base plates, ball bearings for the shaft, said shaft projecting through a base plate and having operating means attached to the projecting end of the shaft, substantially as described.

893,075. Wheel. Ernest Hopkinson, East Orange, N. J. Filed Oct. 16, 1906. Serial No. 339,172.

1. A wheel rim having a clencher hook at one side, a removable flange on the other side, and a removable filler for the clencher hook having a substantially flat surface on its tire side.

893,107. Automobile. Charles Snow, San Francisco, Cal. Filed April 8, 1907. Serial No. 366,934.

1. An automobile comprising a frame, wheel axles, and front and rear fifth wheels supporting said frame upon said axles, each fifth wheel being open in the center and comprising an upper ring and a lower ring turning thereunder, the opposing faces of said rings being grooved to form a runway, balls in said runway, and means for holding said rings together against vertical motion, said means comprising U-clamps secured to one of said rings at suitable intervals, shafts carried at their ends, and a roller on each shaft rolling against the other ring, substantially as described.

893,144. Variable Speed Power Transmission Mechanism. Herman Casler, Canastota, N. Y. Filed April 24, 1907. Serial No. 369,998.

1. The combination of a driving shaft, a driving element on said shaft, an axially adjustable driven element rotatable on the said shaft, means for rotating the said driven element directly from the said driving element, a transmission element at an angle to the said driving and driven elements and constructed to drive the latter from the former, and means for axially adjusting the said driven element on the said shaft.

893,241. Force Feed Lubricator. Clarence B. Hodges, Detroit, Mich., assignor to Detroit Lubricator Company, Detroit, Mich., a Corporation of Michigan. Filed Feb. 11, 1907. Serial No. 350,004.

1. The combination with a reservoir of a pumping device, two inlet and two discharge conduits therefrom, one discharge conduit leading to a sight feed or bleed and back to the reservoir, the other discharge leading to the point to be lubricated, and a single regulating device for regulating the amount pumped through both discharge conduits.

893,270. Vehicle Wheel. Uzziel P. Smith, Akron, Ohio. Filed Sept. 19, 1906. Serial No. 335,177.

1. A wheel comprising a hub section and a rim section, a cushion between said sections adapted to receive the shock of relative movement between the two, a driving connection between said hub section and rim section comprising a disc revolubly mounted on a hub section and eccentrically connected with a disc revolubly mounted on the rim section.

893,281. Universal Joint. Benjamin F. Teal, Glenside, Pa. Filed Feb. 21, 1907, Serial No. 358,679. Renewed Dec. 16, 1907. Serial No. 406,771.

1. A universal joint comprising a yoke, an element, an oscillatory member interposed between the yoke and element, adjustable trunnions carried by said element and oscillatory member for engagement with the corresponding trunnions, and antifriction balls arranged between said trunnions and race members.

893,323. Explosive Engine. Charles R. Greuter, Wilkes-Barre, Pa. Filed April 25, 1907. Serial No. 370,277.

1. In a valve mounting for explosive engines, a cylinder head having a water jacket, a valve cage having a threaded neck and a contiguous shoulder forming a detachable ground joint connection with the inner wall section, and a locked connection with the outer wall section, said valve cage being exposed to the water in the water jacket.

893,400. Internal Combustion Engine. John A. Torrens, Coleraine, Ireland. Filed May 15, 1908. Serial No. 433,121.

1. In internal combustion engines, in combination, an engine cylinder having a main valve chest at one side thereof and communicating therewith, a valve box detachably secured to said chest and having inlet and exhaust chambers communicating with said chest, a main valve controlling communication between said chest and the engine cylinder, inlet and exhaust valves controlling the communication between said chest and said valve box means acting to hold said several valves normally seated and means for positively operating said main valve.

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893,409. Power Transmission, John L. Williams, Ellzey, Fla. Filed Aug. 31, 1907. Serial No. 390,951.

1. A power transmission for vehicles, comprising the vehicle wheel provided with a hub having internally arranged teeth, an axle, a stub axle pivoted to the end of the axle and on which the wheel is journaled, a driving shaft in the axle, a stub shaft connected by universal joint with the end of the driving shaft, the free end of said stub shaft being polygonal in cross section, a sleeve fitting on the end of the stub shaft, pawls provided with pivot pins journaled in the sleeve, a shifting arm in connection with the pivot of each pawl, a shifting ring encircling the sleeve, and provided with springs for engaging the shifting arm at different points whereby to reverse the engagement of the pawl with the teeth of the hub, a stop pin for limiting the motion of the ring, a shifting lever provided with a slot, a pin on the ring for engaging the slot, a ring pivoted with projections connected with the stub axle, and springs for limiting the motion of the said shifting lever.

893,418. Gas Mixer. Amos L. Avery, Bradford, Pa. Filed Jan. 16, 1906. Serial No. 296,336.

1. A device of the character described, comprising an elongated tubular chamber having at its outer end a broad contracted portion forming a reduced ground opening, a stem of the same diameter throughout its length except at the center, which is provided with threads of greater diameter, the outer end of the stem passing through said ground opening and at all times forming a tight joint therewith, the outer periphery of the stem adjacent its outer end provided with a series of narrow elongated grooves gradually tapering in width and depth towards the outer end to a needle opening, said grooves being spaced a distance from the end of the stem to form a solid portion to form a tight joint with the ground opening, and means for moving said stem longitudinally within the tubular chamber.

893,455. Hydraulic Clutch. Augustus C. F. Dann, Southsea, England. Filed Aug. 3, 1907. Serial No. 387,000.

1. In an apparatus of the character herein referred to in which the driving and driven members inclose a fluid filled annulus, a block mounted on one of the members and adapted to slide thereon and to be projected to a varying extent into said annulus, a yielding stop on the second member projecting into said annulus and into the path of the block and means for operating said block from outside the apparatus; substantially as described.

893,498. Motor Attachment for Vehicles. John C. Higdon, St. Louis, Mo. Filed Nov. 21, 1905. Serial No. 288,496.

1. The combination with a vehicle body and running gear of a frame applied to the under side of the vehicle body, a support projecting laterally from one side of the frame, and an air-cooled hydrocarbon motor held by the support in such a position that there is a free air space between the side of the vehicle body and said motor.

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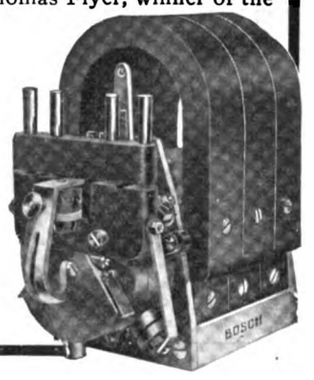
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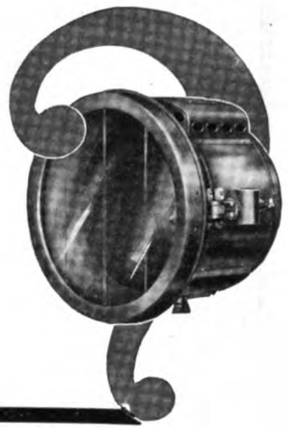
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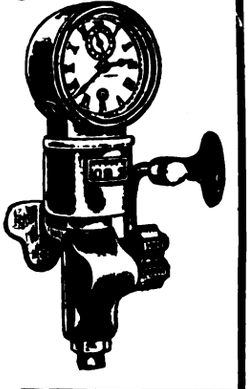
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Address your request for Free Trial to Our Nearest Branch House.

New York, 1902 Broadway; Boston, 925 Boylston St.; Philadelphia, corner Broad and Race Sts.; Pittsburg, 3432 Forbes St.; Cleveland, 2062 Euclid Ave.; Buffalo, 722 Main St.; Detroit, 239 Jefferson Ave.; Chicago, 1305 Michigan Ave.; Indianapolis, 330½ N. Illinois St.; St. Louis, 3923 Olive St.; San Francisco, 550 Golden Gate Ave.; Los Angeles, 1122 S. Main St.

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THE Overland

$1,650.00

Coupe-Roadster

AN IDEAL COMBINATION CAR

A complete Roadster for summer use and a handsome enclosed car for winter use at $1,650.

Write for photographs and specifications.

OVERLAND AUTOMOBILE CO., Indianapolis, Ind.

THE

VOLTA MAGNETO

is so simple in construction that a novice can operate it as easily as an expert.

Witherbee for Ignition.



Wico Charging Device
Wico Ignition Wire
Wico Spark Plugs
Witherbee Batteries
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Witherbee Igniter Co.

Makers of the famous Witherbee Battery

1876 BROADWAY, NEW YORK

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More Remy Magnetos

have already been sold for 1909 cars than all our competitors can sell. Sales to date total more than 15,000. And that's not all. More Remy High Tension Magnetos are now in use on American built cars than all others combined.

The Remy is the simplest magneto—the magneto without brushes—the magneto that gives the car user no trouble.

Write for folder giving complete description. We build magnetos for double ignition, and also alternating and direct current magnetos for all ignition purposes.

Address Dept. 11.

Remy Electric Co., Anderson, Ind.

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THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

$ 2 0 0 0

Touring Car **Roadster**
Limousine **Landaulet**

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.

ROCHESTER, N. Y.

Member A. L. A. M.

TIME WAS when tire worry spoiled much of the enjoyment of motoring and the motorist who footed the bills had no voice in the matter.

THEN CAME THE AJAX wrapped tread tire with its superior services.

AND NEXT THE AJAX 5,000 MILE GUARANTEE —If the user of Ajax tires fails to obtain 5,000 miles service from his tire, it is for us to worry—not him, and we make good.

WITH AJAX TIRES the tire problem resolves itself into a plain proposition. We know that they will do, and we offer you the best kind of an insurance for expressing your willingness to find out for yourself.

IS THERE ANYTHING MORE BUSINESS-LIKE THAN THIS?

Write for copy of Guarantee, stating what size tire you are using. Address Dept. A.

AJAX-GRIEB RUBBER COMPANY

GENERAL OFFICES: N. E. Cor. 57th St. and Broadway, New York
Factories: Trenton, N. J.

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Agents in all large cities.

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Mongrel or Thoroughbred?

NOW IS THE TIME for you, Mr. Thoughtful Dealer, to decide what you will sell in 1909.

WILL IT BE A MONGREL? a car assembled from parts carried together from all over the country and hammered into shape as well as may be?

OR WILL YOU SELL THE THOROUGHBRED—a homogeneous mechanical masterpiece, every single part of which is the result of the same genius that devised the whole?

"ASTOUNDING," "MARVELOUS," "WONDERFUL," are the terms with which some assembled cars are now tagged, though they are astounding, marvelous and wonderful only to the assemblers, who like Rip Van Winkle, have been dozing in the growing woods of automobiledom and who now, bewildered by the progress that has been going on, seize upon time-tried and long-established practices and herald their adoption by the assemblers as brand-new discoveries.

LET'S REASON IT OUT: On the one hand you have the assembled car, with an engine bought from one manufacturer, a frame from another, and a transmission from a third, and so on down to the last rivet. The maker of the engine, the mill in which the frames are pressed, the transmission man, all derive their separate profits, leaving no other way to the assemblers to obtain their rewards than by skimping the quality of their "product."

AND THEY DO IT—THEY MUST! When you examine some of these astounding cars you will be truly astounded on finding that the four-cylinder engine is cast in one piece and has only two main bearings, whereas the Maxwell has four cylinders and five main bearings. You know well enough that making a motor with only two bearings is equal to leaving the engine to its own devices as far as alignment is concerned.

IT WILL BE A TOUGH JOB FOR THE DEALER to convince the purchaser who is wise that some four-cylinder engines of small dimensions will develop as high as 30 horsepower—because they can't.

MAXWELLS ARE A HOME-GROWN AMERICAN PRODUCT. The use of Maxwell features in Maxwell cars was neither a heaven-given inspiration nor the aping of foreign design, but the outcome of sound engineering sense.

WHEN 10,116 MAXWELL OWNERS testify to the excellence of their cars, all of which have been sold by Maxwell dealers, then the Maxwell proposition is one that you can't afford to pass by.

BEFORE HITCHING YOUR WAGON TO A STAR it will be wise for you to find out all about a dealership for Maxwells, the success of which is past and present, instead of lying in the dark and distant future that has swallowed so many wonderful cars that have been marvelous chiefly in their complete and rapid disappearance from the field of legitimate competition.

Benj. Briscoe
President.

MAXWELL-BRISCOE MOTOR CO.

Standard Manufacturers A. M. C. M. A.

P. O. Box 106, Tarrytown, N. Y.

Factories: TARRYTOWN, N. Y. NEWCASTLE, IND. PAWTUCKET, R. I.

Address communications to Tarrytown, N. Y.

Matheson

1909

Prices Reduced $1,000

And the Reasons Why

Heretofore the Matheson Car has been considered the highest priced as well as the highest grade American car on the market.

Millions of dollars worth of these cars have been delivered to customers who could afford to pay the higher price for **the best.**

Many other purchasers have been persuaded that some of the lower priced cars have been "just as good." Matheson owners who have used other makes of cars have answered that question satisfactorily. Send for their letters, which we have done up in a book.

In order, therefore, to still **maintain the unequalled quality** of the Matheson Car and at the same time give customers this magnificent car at the price of the cheaper cars, the makers have figured that by **doubling the factory output** and selling at a much closer margin of profit, the price of the Matheson Car equipped with Touring, Landaulet or Limousine bodies, could be cut $1,000, and the same chassis, equipped with Roadster or Tourabout bodies, cut $650.

Accordingly, the Company's working capital **has been increased by** $250,000, and after October 11, 1908, the purchaser can buy a genuine Matheson Car, the very finest of all motor cars of either European or American make, **at the makers' former prices to the agent or dealer;** namely:

	New Price	Former Price
50 H. P. 1909 Touring Car	$4,500	$5,500
50 H. P. 1909 Roadster	4,350	5,000
50 H. P. 1909 Tourabout	4,350	5,000
50 H. P. 1909 Limousine	5 500	6,500
50 H. P. 1909 Landaulet	5,500	6,500

VICTORIES

The great string of Matheson victories in the important speed, hill climbing and endurance contests of the past seasons, in competition with the greatest cars of Europe and America, can leave no room for doubt that the Matheson car has no peer on any market to-day.

GUARANTY

Every Matheson is guaranteed for 365 days. (Notice that most other cars are guaranteed for 60 to 90 days only.)

MATHESON AUTOMOBILE COMPANY

Main Sales Office, 1886-1888 Broadway, New York City

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Morgan & Wright Tires

ARE UNIFORMLY GOOD TIRES

Barring accidents or exceptionally severe usage, you will get the same long trouble-less service out of every tire you buy.

No special tires.

You can be sure that the tire you buy is the best tire we know how to make.

MORGAN & WRIGHT, DETROIT

THE BRAMPTON MOTOR CHAIN



All side plates on both sides of the Brampton Chain are stamped "BRAMPTON."

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement. THE BRAMPTON CHAIN is made of self-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like THE CELEBRATED BRAMPTON CHAIN because some of the other chain makers began to copy the design and shape of the BRAMPTON CHAIN links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the BRAMPTON CHAIN than ever before. These chains somewhat resemble the BRAMPTON in appearance, but the manufacturers of such chains have been unable to copy the material —self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the BRAMPTON MOTOR CHAIN in the past ten years.—"ENUF SED."

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the BRAMPTON FILLS THE BILL, and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size. We have in stock chains to fit all American and foreign cars.

YOUR 1909 CAR

You can have the new car that you order fitted with the CELEBRATED BRAMPTON CHAIN if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.
Agents wanted in unoccupied territory. Catalog on request.

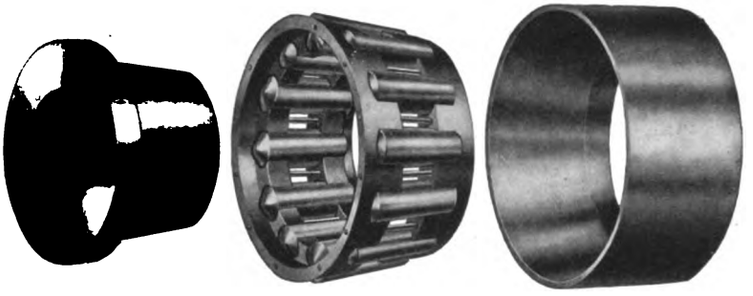
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CHAS. E. MILLER, Main Office: 97-99-101 Reade Street, New York

BRANCHES: 54th St. and 8th Ave., New York. 318-320 N. Broad St., Philadelphia, Pa. 1829 Euclid Ave., Cleveland, O. 824 Main St., Buffalo.
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New Improved Grant Bearing



¶Possesses many distinctive features and is meeting with marked approval by designers and engineers.

¶Absolutely guaranteed in all respects. Made interchangeable with any other form of conical or tapered roller bearing, and may be used in existing constructions, replacing types which are less efficient.

¶Details and prices upon request.

Standard Roller Bearing Co., Philadelphia, Pa.

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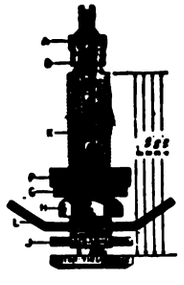
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New York, 148 Chambers St., and Broadway and 73d St.; Boston, 292 Devonshire St.; Buffalo, 724 Main St.; Fobes Auto Supply Co., Portland, Ore.; Fobes Auto Supply Co., Seattle, Wash.; Waite Auto Supply Co., Providence, R. I.; Chicago, 1301 Michigan Ave.; Atlanta, Ga., Dunham Rubber Co.; Denver Auto Goods Co., Denver, Colo; Penn Auto Supply Co., Philadelphia, Pa.; Savell Rubber Co., Jacksonville, Fla.; Empire Tire & Rubber Co., Minneapolis, Minn.; The Auto Supply Agency Co., 1268 Euclid Ave., Cleveland, O.

ESTABLISHED 1844

SCHRADER UNIVERSAL VALVE

Trade Mark Registered April 30, 1895



SIMPLE AND ABSOLUTELY AIR TIGHT

Schrader Motor Tire Valves, as shown in cut, are the regular equipment for G & J Motor Tires, Hartford Dunlop Detachable Tires, Fisk Detachable Motor Tires, and New Goodyear Detachable Motor Tires.

Our No. 777 Motor Tire Valve is the standard for 2½ inch and 3 inch Tires and our No. 725 Motor Tire Valve is the standard for tires larger than 3 inches.

Supplied to the Trade by All Tire Manufacturers

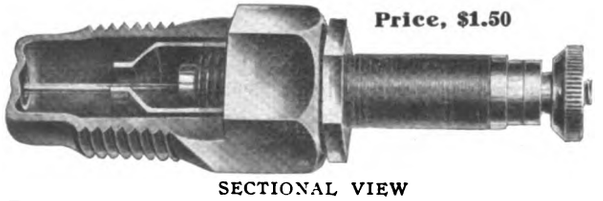
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Going Like "Blue Blazes"

MEANS USING

BLUE BLAZE SPARK PLUGS

Price, $1.50

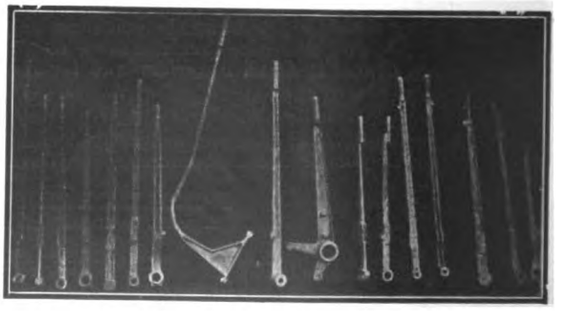


SECTIONAL VIEW

Practically a plug within a plug. Actually double security. We also make the **CLEVELAND**, the plug with the spiral core. It "Shoots a Flame." Price, $2.00.

THE CLEVELAND SPARK PLUG CO. Section D, Whitney Bldg. CLEVELAND, OHIO

PARSONS' MANGANESE BRONZE LEVER CASTINGS

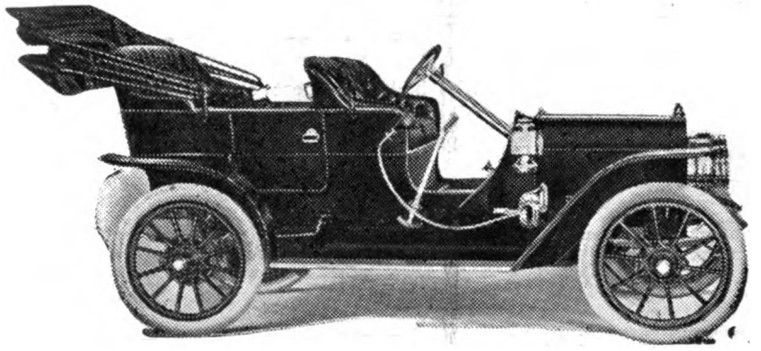


Sole Makers

THE WILLIAM CRAMP & SONS SHIP & ENGINE BUILDING COMPANY, - Philadelphia, Penna.

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Model B Touring Car, price $1,350.00. Full equipment, including two gas lamps, two side oil lamps, one tail lamp, generators, horn, tools, jack, pump and batteries. Top, $75.00 extra. Runabout, $1,300.

¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

¶ The live agent will find in the Oakland a car that appeals to a large and intelligent class of purchasers and that will justify the fullest confidence.

¶ Correspondence invited.

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LONG EXPERIENCE
SKILLED WORKMANSHIP
HIGHEST QUALITY OF MATERIAL

MAKE THE

WHITLOCK RADIATOR

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Under All Conditions

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THE *National*

WATCH FOR OUR 1909 ANNOUNCEMENT—It Will Interest You.

NATIONAL MOTOR VEHICLE CO., Indianapolis, Ind.

Model B—Brush Runabout

A CAR OF SIMPLE DESIGN MADE WELL
NOT A COMPLICATED DESIGN MADE CHEAPLY

Its records and the opinions of its users speak more loudly than self praise. Agencies for 1909 are being closed rapidly. Much good territory still open.

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Get our quotations on high grade two and four cylinder motors, 10 to 45 horsepower. They are equipped with self-contained oiling system and ready for attaching magneto. Highest grade workmanship, efficient, durable and simple. Also clutches and transmissions. Send for catalogue.

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G&J TIRES

TRUFFAULT-HARTFORD
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The Device that made Safe, Speedy and Comfortable Automobiling Possible.

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HARTFORD SUSPENSION CO.,

E. V. Hartford, Pres. 145 Bay St., Jersey City, N. J.

AVOID ACCIDENTS
by using the
Wridgway No Glare Shade

which adds to the efficiency of the lamps, and keeps glare from blinding other users of the highways. Can be fitted to any existing lamp.

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THE MAYO RADIATOR CO. HIGH GRADE NEW HAVEN, CONN.

FRANKLIN Automobiles

The cost of a motor car is different from the price. Write for catalogue which explains Franklin high-power at low cost.

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DIAMOND drive their cars more miles per dollar cost than any others CHAINS TRADE MARK

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A SUPERB LINE OF CARS—
THE JACKSON
"No Sand Too Deep—No Hill Too Steep."
2-Cylinder and 4-Cylinder
Runabouts, Roadsters, Touring Cars,
15 H. P., 24 H. P., 35 H. P.
Prices $850, $1,250, $1,500, $2,000.
JACKSON AUTOMOBILE CO., Jackson, Mich.



It's foolish to pay more for a spark plug when you can get so good a plug as the "Vulcan" STA-RITE for $1.25. Made with outer cap. Inner tube never exposed. Can't crack.

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DO YOU KNOW THAT MORE
Continental
Demountable rims are sold than all others combined. Write for information.
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McCORD LUBRICATORS — RADIATORS
"Marks of a Good Motor Car"

McKIM COPPER-ASBESTOS GASKETS

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NEW YORK—Hudson Terminal, 50 Church Street.
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SUPERIOR Etched Name Plates

We are prepared to furnish you any kind or style as above. We shall be pleased to furnish quotations.

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The Best Tubes Ever Manufactured.
Are the most economical. Do not deflate when punctured.
DOW TIRE COMPANY,
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Type C.
PENNSYLVANIA
"FIFTY"

We had the best car in America. We thought for a long while how to improve it and left it alone. You think that over.



Touring Car, Baby Tonneau or Roadster bodies, with double ignition, $3,000.

Pennsylvania Auto Motor Co.
BRYN MAWR, PENNSYLVANIA

$11,000,000
worth of experience behind the new
$1,500 MITCHELL

This price includes $300 worth of extra automobile value not included in other cars selling at this price. Learn what it is. Write to-day for detailed description.

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Standard Manufacturers A. M. C. M. A.

PERFECT FITTING HEAT TREATED
CLEVELAND-CANTON VANADIUM SPRINGS
MAKERS OF SPRINGS
FOR AUTOMOBILE PURPOSES
CLEVELAND-CANTON SPRING CO., CANTON OHIO

A DUPLICATION, NOT AN IMITATION OF LEATHER.

AUTOFOID is a peculiar name. Try to remember it when next you are ordering material for tops, cushions, etc.

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Buffalo, New York.

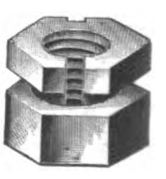
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ONE Quality for ALL Models
ONE Price for ALL Buyers
Write for 1909 Catalog.
THE DAYTON MOTOR CAR CO.,
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A Necessity On Automobiles—WHAT?
COLUMBIA LOCK NUTS

CANNOT shake loose. They add an important factor of safety and give a feeling of security. Columbia Lock Nuts are the best kind of accident insurance. Used by most makers of the best cars and by leading railroads, etc. Send us a two-cent stamp, size and thread of the bolt, and we will forward a Columbia Lock Nut for it.



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"The Oil in the Checkerboard Can"

Is the one perfect automobile lubricant. Panhard Oil is the only cylinder oil made that will lubricate at all temperatures. It insures against pre-ignition, pounding, and other costly engine troubles which are commonly caused by poor cylinder oil carbonizing in the cylinders.

The new Sealed Can protects you against the substitution of an inferior oil—always see that the seal is not broken.

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FROM COAST TO COAST
ITS SAFE TO COAST
IF YOU USE
THERMOID
BRAKE LINING

PACKARD IGNITION CABLE

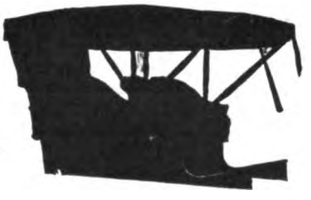
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MAGNETOS
Are The Best—They have proved it
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The Acme JUSTIFIES ITS NAME
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Aluminum Bodies
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Full of Air.
Tire expense cut in two.
Cannot Blow Out, Rim Cut or Puncture.
As Flexible as Rubber
Anti-Skid.

That part of a tire with a blowout or a rim cut in it will last longer than any other part if encircled by a few sections of steel.

Thousands in use.

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Why pay high prices
FOR ALUMINUM
Axle Covers, Engine Crank Cases, Transmission Cases.
Have these made of Pressed Steel
JUST AS LIGHT
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The PULLMAN
4-40 Roadster. Price, $3,000.
that made the run from Philadelphia to Savannah, Ga., March 5th to 18th, through mud up to the radiator, beating all previous records.
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FRANCE. ENGLAND. ITALY. AMERICA.
MICHELIN TIRE COMPANY
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THE GYROSCOPE CAR
The Simplest Automobile in the World.
$750—The Price—$750.
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We had to refuse him—50 extra was all we could grant, for 500 other dealers have all made the same request.

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ALUMALOYD SHEETS

For Automobile Bodies, Dashes, Guards, Bonnets, Battery Boxes, Drip Pans, Mufflers, Etc.

STRONG—DURABLE
CALELESS—RUSTLESS
SMOOTH—PAINT ADHERES FIRMLY

A Metal That's A Time and Money Saver

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The Only Cure for Tire Troubles
The Only Genuine Spare Wheel
GET A
STEPNEY
AND KEEP GOING

Agencies in all the large cities.
Catalogue B tells all about it. Write NOW.

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Give Your Car a Good Name
by using
SUPPLEMENTARY SPIRAL SPRINGS

Change a bone-shaker and a spring-breaker into an easy riding, real automobile in which you can take pride and your passengers comfort. The use of S. S. S. change a near-good car to a real good car and add the finishing touch of luxury to the best cars. Our booklet tells you all about them, and is yours for the asking. Write for it.

SUPPLEMENTARY SPIRAL SPRING CO., 4555 Delmar Ave. St. Louis, Mo.
New York Branch, Removed to Motor Mart Building. (Larger Quarters.)

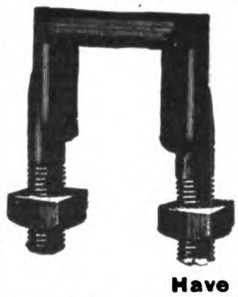


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A very handy wrench for inconvenient places. Drop forged steel throughout, parts carefully hardened, and are interchangeable. Has patent nut locking device at side.
Write for new circular.

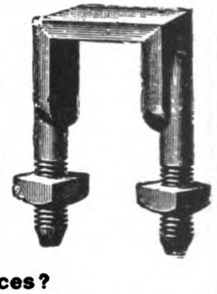
THE BILLINGS & SPENCER CO, Hartford, Conn.

FORGINGS for the AUTOMOBILE TRADE



Satisfaction Guaranteed

Thousands of our Spring Clips are now in use, having been supplied to the leading automobile manufacturers.



Have you secured our prices?

THE M. SEWARD SONS COMPANY, New Haven, Conn.

Buy It And Try It And Prove It Yourself

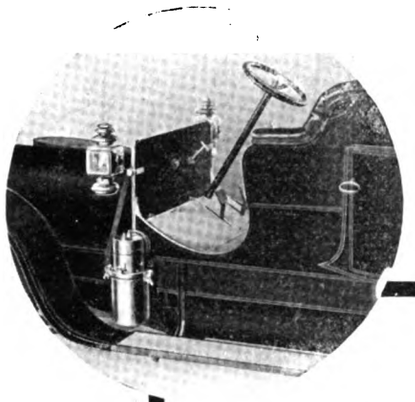


The reason the SPLITDORF
Common Sense Plug
is a prime favorite with motorists is because they have found it an exceedingly good Plug. Will not carbonize, short circuit or break. Gives the hottest spark with absolute certainty. A working Plug from every point. $1.00.

C. F. SPLITDORF
Walton Ave. & 138th St. Branch, 1679 Broadway New York

"RAJAH" SPARK PLUGS
IGNITION ABSOLUTELY SURE
RAJAH AUTO SUPPLY COMPANY
BLOOMFIELD, NEW JERSEY, U. S. A.
(Watsessing Station, D., L. & W. R. R.)

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FRANKLIN 1909

Model D

The Perfect Score Car of the Chicago 1000-Mile Test, the Bretton Woods Eight Day Grind and the 1700-Mile Glidden Tour.

Unincumbered Franklin dash-board. Notice the neat effect. No coil box. No oiler. Merely the magneto switch. The needle valve stem and primer rod.

Ideal Ignition and a Clean Dash.

The Bosch high tension magneto as used on Franklin automobiles without an auxiliary battery system has solved the ignition problem.

It is easier to crank the motor than with the battery system and back kicks are impossible. The magneto on Models D and H is provided with a governor which automatically retards the spark and holds it near dead center of the engine when starting.

With the magneto, slower running on high gear is possible than with the battery system without too much throttling of the charge. The spark can also be independently controlled by the control lever on steering wheel.

The spark is more intense than that of a battery and starts the motor easier at any time, particularly in cold weather when the mixture is likely to be poor at starting.

Records of the Paris, London and New York taxicab service definitely proves this to be the most reliable of all ignition systems.

In the Glidden Tour, Franklin automobiles equipped with this system had no ignition troubles whatever, not even a spark-plug was removed during the entire run.

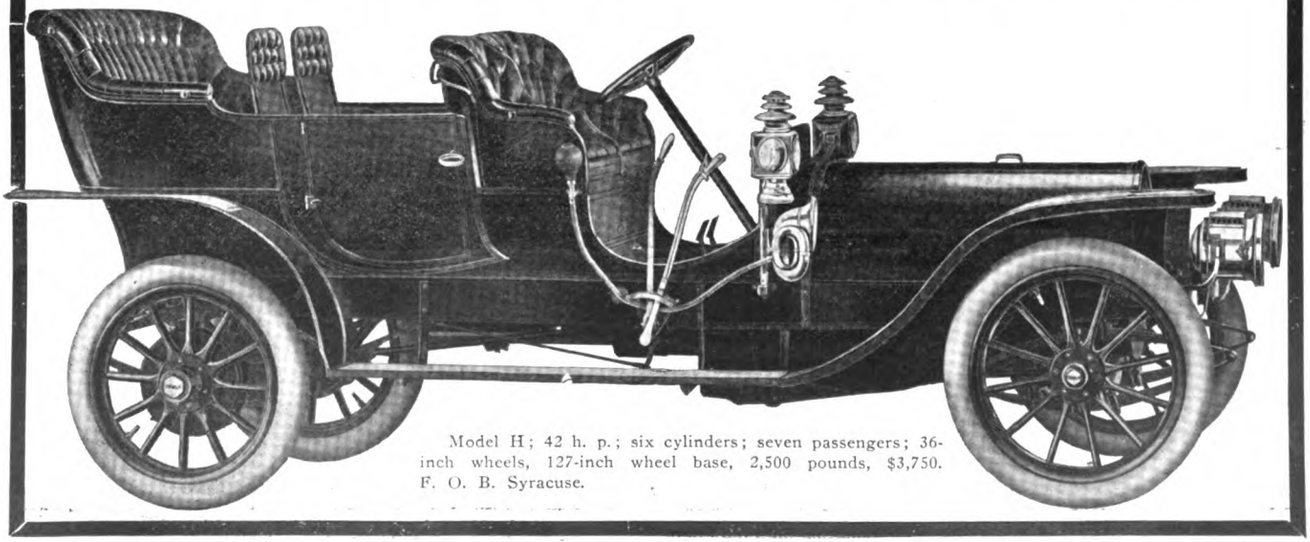
The magneto gets rid of the battery box from the running-board and the coil box from the dash, thus adding to the neat appearance and general style of the automobile.

The Franklin is the first automobile in America to employ the high tension single ignition magneto system (nine-tenths of the leading foreign makers are already using it) just as the Franklin was first with air-cooling, first with four cylinders and six cylinders, first to put the force-feed oiler under the hood, and first with many good things.

Franklins are free not only from ignition troubles but they have no heating nor freezing troubles such as water-cooled automobiles are liable to. And because of their light weight and large wheels and tires, Franklins are free from the tire nuisance that makes every heavy automobile such a troublesome and expensive luxury.

Write for the catalogue describing Franklin refinements in detail, and the full line of Franklin touring-cars, runabouts and closed-cars.

H. H. FRANKLIN MANUFACTURING CO., Syracuse, N. Y.



Model H; 42 h. p.; six cylinders; seven passengers; 36-inch wheels, 127-inch wheel base, 2,500 pounds, $3,750. F. O. B. Syracuse.

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More Remy Magnetos Sold for 1909 Cars Than All Others Combined

FIFTEEN THOUSAND Remy High Tension Magnetos have already been sold for 1909 cars.

—More than the total number of magnetos sold by all our competitors combined.

—More than all our competitors combined **can sell** for 1909 cars.

And **that's** not all. More Remy Magnetos **are now in use** on American-built cars than all others combined.

What does this mean? Simply that the Remy is the **tried** Magneto—the **known** Magneto—the Magneto that can be **relied on** for the best results with the least attention. The history of a magneto proves more than mere claims.

The Remy is the product of the longest experience in magneto construction. We are the oldest magneto manufacturers in the country. Remy Magnetos were in use and were known **before** the day of the automobile, proving the efficiency and certainty of its construction in motors, gasolene tractors, etc.

The Remy Magneto is used with the six-cylinder 200 h. p. steel clad gasolene electric cars of the Union Pacific, manufactured by the McKeen Motor Car Co.—with the powerful engines that operate the heavy Gerling gang plows in the West—and on many other big motors that depend on the perfection of firing for their famous efficiency.

All our experience and the latest light on the science of magneto building have been concentrated on the improvement of the Remy from year to year. The Remy for instance is the magneto without brushes. No brushes to cause trouble—to wear out—and to be replaced.

It is the **simplest**—the most **compact**—the **most dependable.** That's why it can be installed at the smallest expense.

Great Victories Won With Help of the Remy High Tension Magneto

The Remy has thoroughly proved its superiority by **performance.** Here are some of the 1908 victories in which the Remy played an important part:

Indianapolis Auto Races, Sept. 18-19—At the two-day meeting the Buick cleaned up on the first day's program and made an excellent showing the second day, defeating cars costing as high as $4,000. The Buick-Losey Company who handle the machine declare most of their success was due to the fact that their cars are equipped with the Remy magneto system of ignition.

Labor Day Races, Lowell, Mass.—The Buick Motor Car Co. says, "Remy Magnetos used on our cars gave entire satisfaction. Our cars ran faultlessly throughout the whole race, and we can speak in words of highest praise of your Magneto."

Dead Horse Hill Climb, Worcester, Mass., June 6—Record broken for cars up to 20 H. P. by Cameron Three-Passenger Roadster equipped with Remy Magneto.

Economy Contest, Baltimore, Md., August 8—Won by Cameron Runabout equipped with Remy Magneto.

Hill Climbing Contest, Baltimore, Md., August 8—Won by Cameron Runabout equipped with Remy Magneto.

Knox Model L, 30 H. P., equipped with Remy Magneto defeated all cars of equal and several of higher power.

Norristown, Pa., Hill Climb, June 27—First place in $3,000 class, first in $4,000 class, and second in free-for-all gasoline cars won by Knox Model L, 30 H. P., equipped with Remy Magneto. Second place in free-for-all motive powers, and third place in free-for-all gasoline cars won by Knox Model M, 60 H. P., equipped with Remy Magneto.

Arrowhead Hill Climb, New York City, July 11—Won by Knox Model L, 30 H. P., equipped with Remy Magneto.

Shingle Hill Climb, West Haven, Conn., May 27—First place for 30 to 35 H. P., and second place in free-for-all won by Knox Model, 30 H. P., equipped with Remy Magneto.

Rockville, Conn., Hill Climb, June 30—First place in $3,000 class, first in $4,000 class, second in free-for-all and third in free-for-all stock cars won by Knox cars equipped with Remy Magnetos.

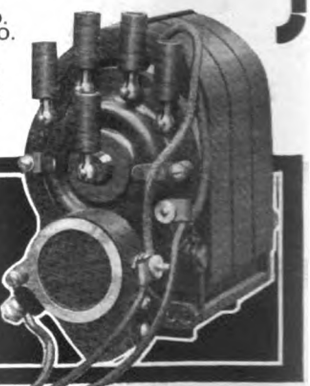
These manufacturers are regular users of the Remy and more Remys are being specified every day for the cars of other makers:

BUICK MOTOR CO. OVERLAND AUTOMOBILE CO. NORDYKE & MARMON CO.
CAMERON CAR CO. MAXWELL-BRISCOE MOTOR CO. HAYNES AUTOMOBILE CO.
MIDLAND MOTOR CO. APPERSON BROS. AUTOMOBILE CO.

Write us for illustration and full description of our new High Tension Magneto. We are building them in such large quantities that we can make you very attractive prices. We also build magnetos for double ignition and alternating and direct current magnetos for all ignition purposes. It will pay you to investigate. Address Dept. 11.

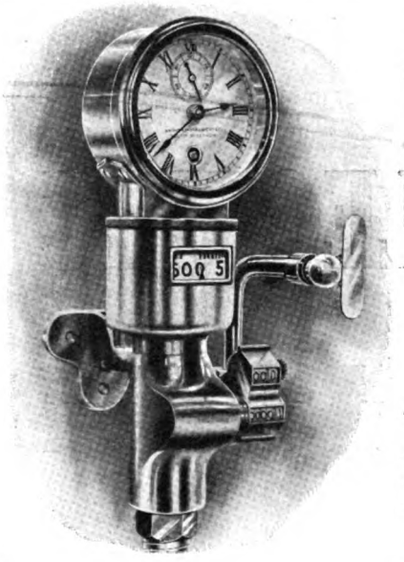
New York Office, Thoroughfare Bldg., Broadway and 58th Street.





Remy Electric Company
Anderson, Indiana

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THE Warner Auto-Meter

In a 20,000-Mile Endurance Test

Four Trips Daily between Pontiac and Detroit, Mich.—200 Miles Every 24 Hours

The Auto-Meter in this double daily century run is attached to a Chalmers-Detroit "Thirty."

Four times every day—rain or shine, muddy or smooth roads—this car equipped with the Warner Auto-Meter leaves Hotel Pontchartrain at Detroit for Pontiac, Mich., and return.

The Auto-Meter is attached to the dash and is depended upon to keep the schedule exact and make the different points at the terminals and en route within the required time.

The Auto-Meter was necessary because in such a gruelling test, where a certain speed must continually be maintained in a specified time, it could be relied upon to be accurate.

Silently and surely it does it work in any weather, under any conditions. To the fraction of a second or the fraction of a mile the Auto-Meter's record is in fallible.

The Auto-Meter is used everywhere one wants to know exactly how far and how fast

In the New York-to-Paris Race, the Thomas, the winner and only American contestant was equipped with an Auto-Meter. The drivers of the famous car give the Auto-Meter due credit for its "silent assistance," which they say materially aided them in winning.

The AutoMeter **always** has been used by the Glidden Pathfinders when they lay out the routes for the Glidden tour, because they know its accuracy may be relied upon.

On the dash of the best cars you will find an Auto-Meter. Owners now find it a necessity as well as a convenience.

We frankly admit there are indicators at less cost, but in an out-and-out comparison where accuracy is demanded to a fraction, the reliable Auto-Meter is the only one that stands the test.

A speed indicator (?) that can't be depended upon is an incumbrance. Write for more details and arrange for a trial of the Auto-Meter.

WARNER INSTRUMENT CO., Factory and Main Office, 284 Wheeler Ave., Beloit, Wis.

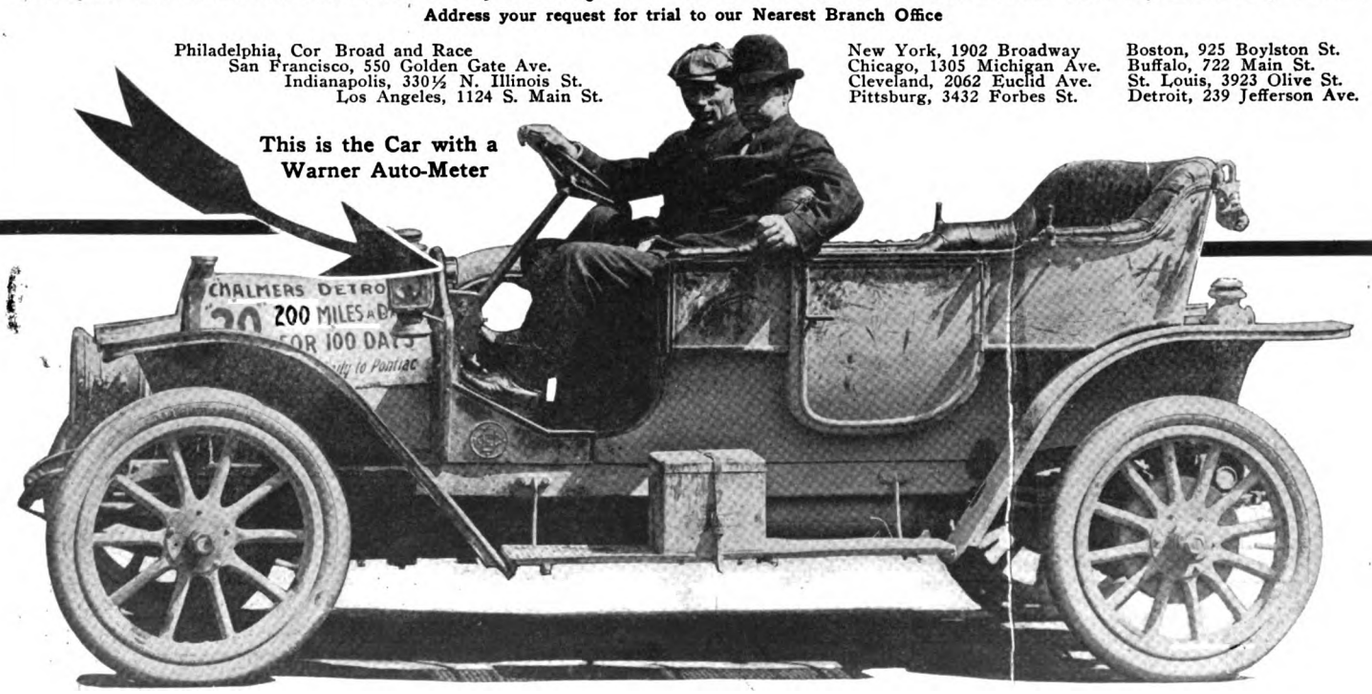
Address your request for trial to our Nearest Branch Office

Philadelphia, Cor Broad and Race
San Francisco, 550 Golden Gate Ave.
Indianapolis, 330½ N. Illinois St.
Los Angeles, 1124 S. Main St.

New York, 1902 Broadway
Chicago, 1305 Michigan Ave.
Cleveland, 2062 Euclid Ave.
Pittsburg, 3432 Forbes St.

Boston, 925 Boylston St.
Buffalo, 722 Main St.
St. Louis, 3923 Olive St.
Detroit, 239 Jefferson Ave.

This is the Car with a Warner Auto-Meter



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Hereafter, Call It

THE WAVERLEY ELECTRIC

(Formerly the Pope-Waverley)

The Pope interests having been purchased by a syndicate of prominent Indianapolis business men, the Waverley plant of the Pope Motor Car Company will hereafter be operated as an independent concern by the Waverley Company. The factory and sales organization remains unchanged.

Backed by ample capital, the new Waverley Company will devote its whole time to the manufacture and sale of the famous Waverley Electric—the standard of electric automobiles.

The Best Electric To Buy—And The Easiest To Sell.

No other electric has ever approached the famous Waverley in practical efficiency. Where great mileage is demanded by the purchaser—a hundred miles or more on one battery charge—the Waverley can give him more of it than any other electric, at no greater expense.

Where a more practical radius of travel satisfies the purchaser—say, 50 to 60 miles per charge—the Waverley gives it a lower cost per mile than any other automobile, gasoline or electric.

The noiselessness, simplicity, cleanliness and economy of the Waverley Electric are daily increasing its well-known prestige. No other electric is so stylish or so durable. No other vehicle, horse-drawn or power driven, is so thoroughly dependable.

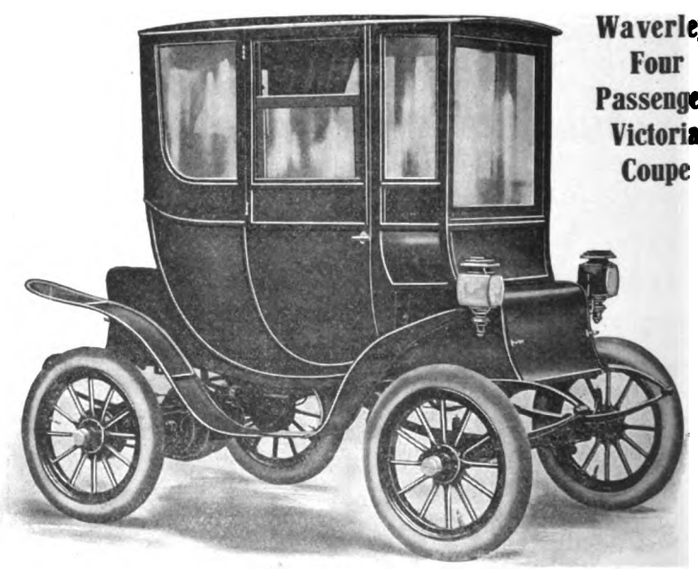
The sales have been increasing by leaps and bounds for several years.

The Waverley Electric for the coming season will be even better than it has been, and an even better proposition for good dealers.

The sales will be pushed as they they have never been pushed before.

Now Is The Time For The Dealer To Write About His Territory

The Waverley Co. Indianapolis, Ind.



Waverley Four Passenger Victoria Coupe

Popular All The Year Around.

This handsome vehicle gives splendid service when gas cars are hibernating and horses demand "humane" treatment. The Coupe Top is removable, giving a perfectly enclosed coupe for stormy weather, and a stylish open Victoria Phaeton for summer.

Price: With Removable Coupe Top, $2,150.

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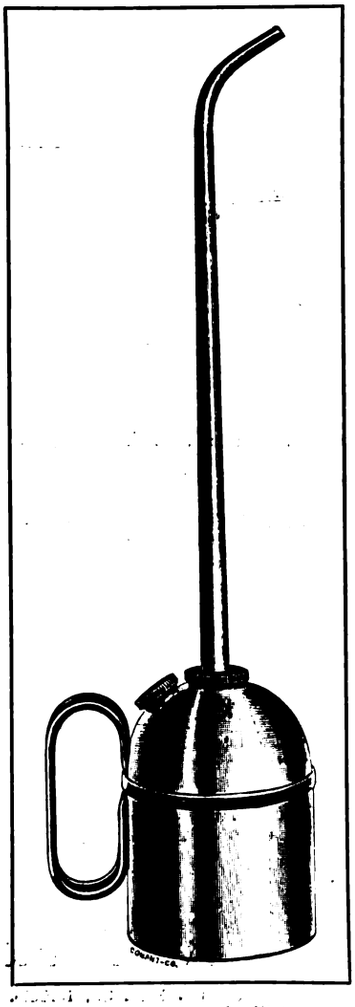
Out of the thousands of

"SWEDOH" SPRING STEEL RIMS

turned out by us, not one ever has been returned as defective. We make the statement on honor, and it ought to impress the manufacturer who is aiming to produce a quality product.

"Swedoh" Spring Steel Rims

are emphatically a quality product of one of the largest and best equipped mills in the country. They are used on most good automobiles and ought to be used on all automobiles.

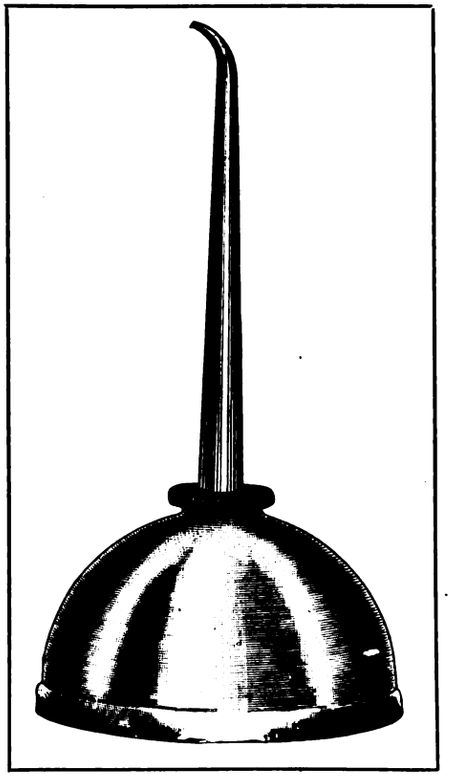


We also make from "Swedoh" steel

REAL OIL CANS

heavily copperized, of extreme durability and springiness that the ordinary oil can ought to be but isn't.

Our product includes all kinds of steel stampings and pressed work. If you want anything made from steel, we can make it—and "make good."



AMERICAN TUBE & STAMPING CO.

Bridgeport, Connecticut

NEW YORK OFFICE, 100 BROADWAY

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Premier In a Three-Fold Victory

In the fully Sealed Reliability Contest of 250 miles per day for four consecutive days, held under the auspices of the Chicago Motor Club the PREMIER scored three victories.

FIRST—The only Premier entered won the Standard Oil trophy for the lowest gasoline consumption over many cars that, with full passenger load, weighed at least 1,000 pounds less than did the Premier. THIS RECORD FOR ECONOMY IS NOTEWORTHY.

SECOND—The Premier made a perfect road score, finishing with all seals intact, in a contest which was most severe by reason of the amount of mileage per day and the condition of the roads traversed.

THIRD—The Premier was awarded a perfect score by the Technical Committee who made a most thorough and complete examination of all the cars at the finish of the run to determine any weaknesses which might result from the strenuous road performances.

The Premier's great record in the event just ended is a fitting climax to a season of Premier victories.

Again We Ask—Can You Beat It?

Send for Catalogue S.

Premier Motor Manufacturing Company

Indianapolis, Indiana, U. S. A.

Standard Manufacturers, A. M. C. M. A.

THE BRAMPTON MOTOR CHAIN



All side plates on both sides of the Brampton Chain are stamped "BRAMPTON."

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement. **THE BRAMPTON CHAIN** is made of self-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like **THE CELEBRATED BRAMPTON CHAIN** because some of the other chain makers began to copy the design and shape of the **BRAMPTON CHAIN** links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the **BRAMPTON CHAIN** than ever before. These chains somewhat resemble the **BRAMPTON** in appearance, but the manufacturers of such chains have been unable to copy the material —self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the **BRAMPTON MOTOR CHAIN** in the past ten years.—"ENUF SED."

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the **BRAMPTON FILLS THE BILL,** and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size. We have in stock chains to fit all American and foreign cars.

YOUR 1909 CAR

You can have the new car that you order fitted with the **CELEBRATED BRAMPTON CHAIN** if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

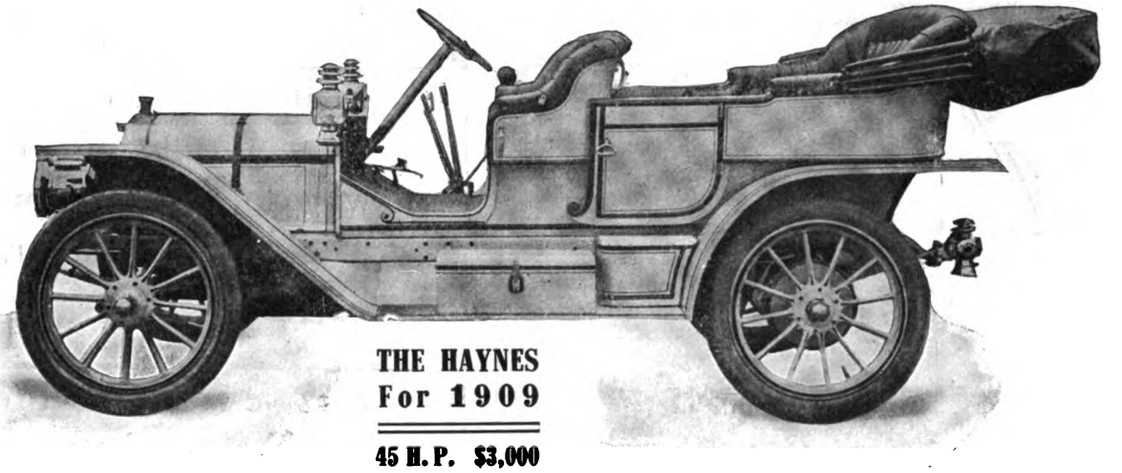
SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.
Agents wanted in unoccupied territory. Catalog on request.

Manufacturer, Jobber, Exporter and Importer

CHAS. E. MILLER, Main Office: 97-99-101 Reade Street, New York

BRANCHES: 54th St. and 8th Ave., New York. 318-320 N. Broad St., Philadelphia, Pa. 1829 Euclid Ave., Cleveland, O. **824 Main St., Buffalo.**
202-204 Columbus Ave., Boston, Mass. 227½-229 Jefferson Ave., Detroit. 1392 Bedford Ave., Brooklyn, N. Y.

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THE HAYNES
For 1909

45 H. P. $3,000

HAYNES

Victory!

TWO PERFECT SCORES AT CHICAGO

CHICAGO, Oct. 10.—In the great Thousand-Mile Endurance Run of the Chicago Automoblile Club, the two Haynes entries secured two of the five Perfect Scores out of 17 contestants. Several cars had more than one entry, but only the Haynes secured more than one Perfect Score.

This remarkable showing recalls the corresponding event of last year where the single Haynes entry won the only Perfect Score that was awarded.

There is real value in these tests. Any car in skillful hands with good luck can attain a perfect score in ordinary Endurance Runs where the operator is allowed to fuss with his car whenever it is necessary. But in these tests the car had to go through untinkered and pass a rigid examination of its condition at the end.

Haynes cars will always win in such tests.

For 1909 One Model, 45 H. P., $3,000. Four types of body.

HAYNES AUTOMOBILE COMPANY, Kokomo, Indiana

Members A. L. A. M.

Oldest Automobile Manufacturers in America

NEW YORK, 1715 Broadway CHICAGO, 1702 Michigan Avenue

LIVE AGENTS WANTED IN UNOCCUPIED TERRITORY

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THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

$ 2 0 0 0

Touring Car **Roadster**
Limousine **Landaulet**

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.

ROCHESTER, N. Y.

Member A. L. A. M.

TIME WAS when tire worry spoiled much of the enjoyment of motoring and the motorist who footed the bills had no voice in the matter.

THEN CAME THE AJAX wrapped tread tire with its superior services.

AND NEXT THE AJAX 5,000 MILE GUARANTEE —If the user of Ajax tires fails to obtain 5,000 miles service from his tire, it is for us to worry—not him, and we make good.

WITH AJAX TIRES the tire problem resolves itself into a plain proposition. We know that they will do, and we offer you the best kind of an insurance for expressing your willingness to find out for yourself.

IS THERE ANYTHING MORE BUSINESS-LIKE THAN THIS?

Write for copy of Guarantee, stating what size tire you are using.
Address Dept. A.

AJAX-GRIEB RUBBER COMPANY

GENERAL OFFICES: N. E. Cor. 57th St. and Broadway, New York
Factories: Trenton, N. J.

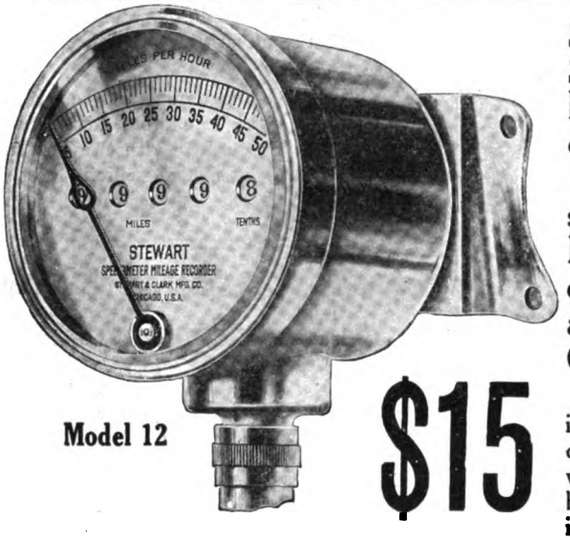
BRANCHES:
New York, 1776 Broadway — Denver, 1529 Cleveland Place
Boston, 819-a Boylston St. — Seattle, 1102 Broadway
Chicago, 1418 Michigan Ave. — San Francisco, 460 Golden Gate Ave.
Detroit, 743 Woodwood Ave. — Los Angeles, 1040 S. Main St.

Agents in all large cities.

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Stewart Speedometer

Complete with Enclosed Season Odometer $15



Model 12

$15

Some weeks ago we announced a startling Speedometer proposition for 1909 and we have kept our word. Last week's issue contained our full announcement for the 1909 season—the most beautiful line of speedometers ever shown, including **Model 12, at the unheard of price of $15 for a complete and guaranteed Speedometer and Season Odometer.**

This thoroughly high grade complete and guaranteed instrument is not to be confounded with ordinary $15 speedometers stripped of their essential season odometers, and without which no speedometer is complete, and which will be offered the trade in a makeshift pretense of meeting our impossible competition.

Don't be confused by offerings of even higher priced speedometers which may be equipped with ordinary external odometers, ***not in any way the equal of the Stewart enclosed odometer.***

Model 12 is the handsomest 3-inch speedometer ever produced. Indicates speed up to 50 miles. Has an enclosed season odometer with capacity of 10,000 miles and repeat. The workmanship, materials and construction of this beautiful model are of the same high standard used in all our speedometers, and which has made possible our famous *FIVE-YEAR GUARANTEE,* which still stands unchallenged.

This model is ***GUARANTEED ABSOLUTELY FOR FIVE YEARS,*** and is equipped with our famous Stewart flexible shaft and patented swivel joint (***without which no speedometer can continue to give satisfaction***), exactly the same equipment used on our higher priced models. We make no exceptions; we sacrifice nothing to accomplish the lower price. Compare this costly equipment with the troublesome wire core shaft and non-swivel devices which are a part of the equipment of other speedometers.

A Thoroughly High-Grade Instrument

designed to meet the requirement of the small car. It is far better than any other speedometer, of any make at any price, as a trial alongside any other will prove. ***Ready for delivery about Nov. 1st.***

SEND *for* CATALOGUE DESCRIBING *the* FULL LINE

Stewart & Clark Mfg. Co., 509 Diversey Boulevard, CHICAGO

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Matheson

1909
Prices Reduced $1,000
And the Reasons Why

Heretofore the Matheson Car has been considered the highest priced as well as the highest grade American car on the market.

Millions of dollars worth of these cars have been delivered to customers who could afford to pay the higher price for **the best.**

Many other purchasers have been persuaded that some of the lower priced cars have been "just as good." Matheson owners who have used other makes of cars have answered that question satisfactorily. Send for their letters, which we have done up in a book.

In order, therefore, to still **maintain the unequalled quality** of the Matheson Car and at the same time give customers this magnificent car at the price of the cheaper cars, the makers have figured that by **doubling the factory output** and selling at a much closer margin of profit, the price of the Matheson Car equipped with Touring, Landaulet or Limousine bodies, could be cut $1,000, and the same chassis, equipped with Roadster or Tourabout bodies, cut $650.

Accordingly, the Company's working capital **has been increased by** $350,000, and after October 11, 1908, the purchaser can buy a genuine Matheson Car, the very finest of all motor cars of either European or American make, **at the makers' former prices to the agent or dealer;** namely:

	New Price	Former Price
50 H. P. 1909 Touring Car	$4,500	$5,500
50 H. P. 1909 Roadster	4,350	5,000
50 H. P. 1909 Tourabout	4,350	5,000
50 H. P. 1909 Limousine	5.500	6,500
50 H. P. 1909 Landaulet	5,500	6,500

VICTORIES

The great string of Matheson victories in the important speed, hill climbing and endurance contests of the past seasons, in competition with the greatest cars of Europe and America, can leave no room for doubt that the Matheson car has no peer on any market to-day.

GUARANTY

Every Matheson is guaranteed for 365 days. (Notice that most other cars are guaranteed for 60 to 90 days only.)

MATHESON AUTOMOBILE COMPANY
Main Sales Office, 1886-1888 Broadway, New York City

STEVENS-DURYEA
NEW MODEL X

supplies the demand for a four-cylinder car, a little larger and more powerful than the Stevens-Duryea four-cylinder Model R, which has been discontinued. The owner of the Model X can feel that the well-known features of the Model R are embodied in his car together with the advantages of more room and power.

The Model X is an enlargement and refinement of the Model R, representing the most advanced ideas in automobile designs together with Stevens-Duryea construction and workmanship, which have been proven absolutely correct.

Price, with standard finish and equipment, **$2,750**

Send for New Model X Catalog.

STEVENS-DURYEA CO. Chicopee Falls Massachusetts

Member of Association of Licensed Automobile Manufacturers.

"LONG-ARM" TRANSMISSIONS

THREE speeds and reverse, selective types. The best of material and workmanship. Our experience in gear cutting and manufacturing Automobile Parts enables us to equal the best transmissions built. Let us figure on your requirements.

We also build a complete line of
AXLES, CLUTCHES
STEERING REACHES
HAND LEVERS, ETC.

The "Long-Arm" System Co.,
CLEVELAND, O.

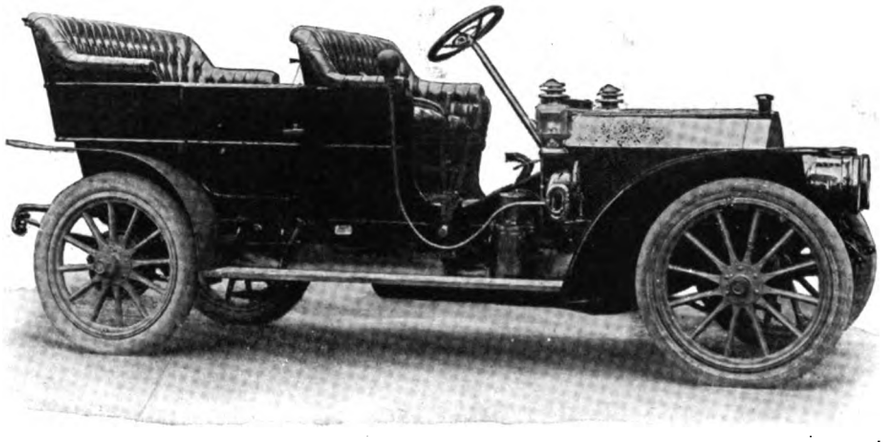
Sales Dept., THE AMERICAN DISTRIBUTING CO.,
American Trust Bldg., Cleveland, O.

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1909 Models of Gasoline Touring Cars (5 passengers), Runabouts (3 passengers), Roadsters (4 passengers), Limousines (7 passengers) and Landaulets (7 passengers); also Victoria Phaeton now ready for delivery

Columbia

Advance Circulars Giving Detailed Descriptions Mailed on Application



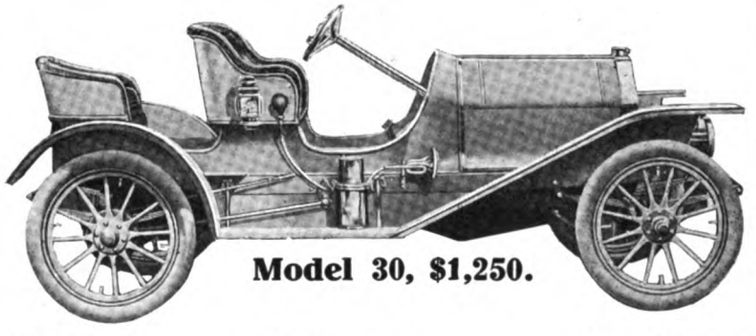
Agents Wanted in Unoccupied Territory

Mark XLVIII, 4 cylinder, 5 passenger, 29 H. P. Touring Car
Fully equipped as above, ready to run, $2,750.00

Manufactured by ELECTRIC VEHICLE COMPANY, Hartford, Conn.
Members A. L. A. M.

1909 Overland

"ONLY PEDALS TO PUSH"



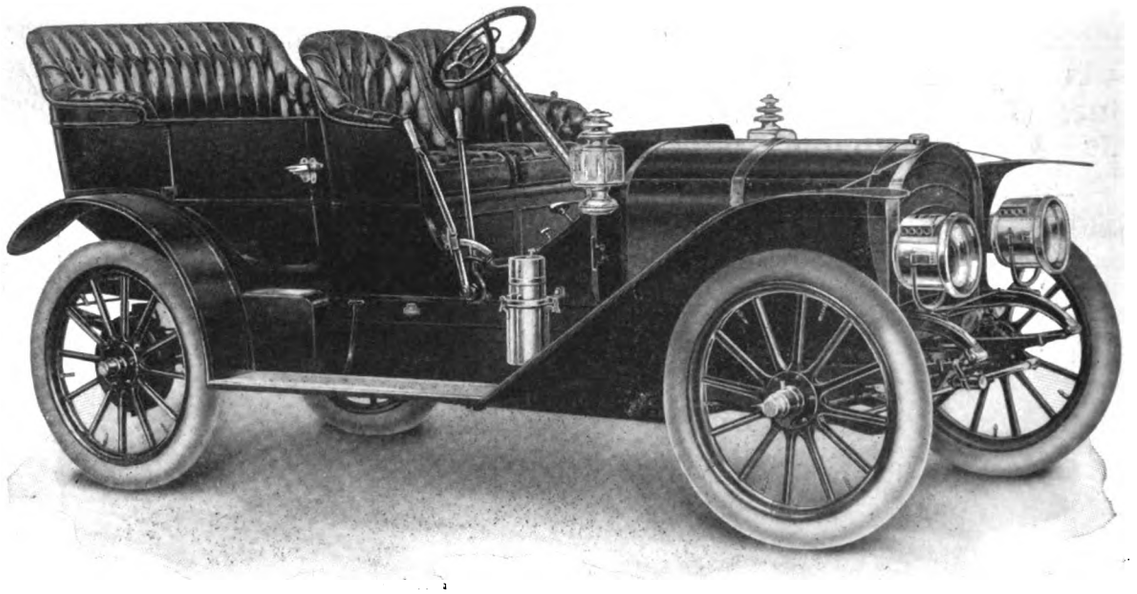
Model 30, $1,250.

The Simplest The Neatest The Quietest
The Most Reliable The Most Fully Equipped The Cheapest
Roadster on the 1909 market.

WRITE FOR SPECIFICATIONS TO

OVERLAND AUTOMOBILE COMPANY, Indianapolis, Indiana

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Model 34, Price $2,250

The Vital Features of This Car.

THE offset crank shaft and straight line drive, more than any other features are responsible for the unusual efficiency, the high delivered power and the wonderful flexibility of control of this four cylinder, five passenger

Rambler

Most automobiles can develop sufficient power at high speed, but the owner's greatest need is for power at slow engine speeds—power on the hills—in stretches of sand and mud.

The offset crank shaft and stright line drive give flexibility, allow more high gear work without overtaxing the engine; that means less gear changing; less clutch manipulation—therefore ease and economy of operation.

This car can be throttled down to operate smoothly and steadily on high gear at three miles an hour. Or it can run forty-five miles an hour.

These features besides those big wheels, big tires, long wheel base, accessible engine, safety starting device, reinforced tubular axle, finished parts of genuine mahogany, perfect brake control, and large luxurious body, make this a car of highest quality.

Ready for immediate delivery. Please write for details now.

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco.

Representatives in all leading cities.

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, October 15, 1908. No. 3

STUDEBAKER ABSORBS GARFORD

Final Steps Being Taken to Complete the Merger—New York Company Ended in the Arrangement.

No small amount of surprise will be occasioned in the trade by the announcement that the Studebaker Automobile Co., of South Bend, Ind., is to absorb the Garford Co., of Elyria, O., and the Garford Motor Car Co., of New York, which latter has had the eastern distribution of Garford cars. The final negotiations for the complete merging of the Garford in the Studebaker interests are being completed this week. This action represents another step in the big policy which the Studebaker company has entered upon, and which has already resulted in its undertaking the marketing of a large part of the E-M-F product both at home and abroad, and the production of buggy type motor vehicles, in addition to handling its regular line of Studebaker models.

For some time the Studebaker interests have been heavily represented in the ownership of the Garford Co.'s stock. The Studebaker chassis have also been produced at the Garford's plant, so that the relations between the companies has been very close. At one period the Garford plant at Elyria produced the Studebaker, the Rainier and the Cleveland chassis, but upon the subsequent withdrawal of both the Rainier and the Cleveland companies from this arrangement, the former to manufacture in its own plant, it was decided that the Garford Co. should market a model of its own. The Garford car was produced last year, and the Garford Motor Car Co. of New York was organized in July, 1907, with $300,000 capital, to handle its sale east of Buffalo. To head the New York company, William B. Hurlburt was chosen as president, under "inducements" of such attractiveness as finally to persuade him to relinquish the management of the Packard Motor Car Co. of New York, to go with the new enterprise. C. R. Teaboldt became his assistant, as secretary and treasurer of the company, and a large salesroom and warehouse on Broadway, near Forty-sixth street, New York City, was engaged.

Under the merger, this business is all to be acquired by the Studebaker interests, and will be handled from the Studebaker building, a little further up the street. In winding up the affairs of the company, terms that are satisfactory to Hurlburt and Teaboldt, with their associates, are being arranged. Inasmuch as Hurlburt and his organization are considered among the best equipped automobile men in the country, their early connection with another of the big automobile companies is not unlooked for.

Baker, of New York, in Bankruptcy.

Bankruptcy proceedings have been filed against the Baker Motor Vehicle Co. of New York, located at 1788 Broadway, New York City, and Judge Holt has appointed James N. Rosenberg as receiver. The liabilities are reported to be about $100,000, and the assets from $20,000 to $30,000. The company was organized on August 16, 1907, under New York laws, with a capital of $20,000, and Nathaniel Platt as president, to act as New York agent for the Baker Motor Vehicle Co. of Cleveland, O. Among the petitioning creditors are: Electric Storage Battery Co., $7,464; Diamond Rubber Co., $1,439, and Anthony G. Imhoff, $600.

Remy Opens an Eastern Office.

Headquarters in New York for the Remy Electric Co., of Anderson, Ind., have been established at 211 Thoroughfare building, on Broadway at Fifty-eighth street. H. J. Hinley is in charge, and will superintend the distribution of Remy magnetos and ignition apparatus in the East.

New York Store for Gray & Davis.

Gray & Davis, of Amesbury, Mass., have opened a branch in New York City for the sale of their lamps. It is at 377 Broadway, and will be under the direction of William H. Gray.

SUES ON "BASIC" BUGGY PATENTS

Action Against Two Makers of High Wheeled Vehicles—Sweeping Infringement Prosecution Threatened.

In the role of the Selden of the high-wheeled motor vehicle, the Success Auto-Buggy Mfg. Co., of St. Louis, Mo., has started suit for injunction against the W. H. Kiblinger Co., of Auburn, and the Economy Motor-Buggy Co., of Fort Wayne, Ind., and is threatening similar action throughout the field generally, where its patents are thought to be infringed. The petition filed by the plaintiff in the United States Court at Indianapolis, Ind., on the 12th inst., asserts that both the defendant companies entered into an agreement to pay the Success Company a royalty of $15 per buggy, but that the defendants have failed to carry out their agreement. An injunction is asked restraining them from further manufacturing of the vehicles alleged to be affected by the patents, and an order for an accounting is petitioned for.

Claims are made by the Success Company that it "holds several valuable patents on all the most important parts of high-wheeled motor buggies." To support its priority in the motor buggy line, the company points out that four years ago its product was placed on the market, and so distinctly was the vehicle of the real buggy type that the first photograph of the early machine discloses a whip-socket on the dash which the builder had accidentally overlooked. A vigorous and sweeping prosecution of alleged infringement, will be commenced immediately, it is announced.

Duerr Creditors' Meeting Called.

A meeting of the creditors of C. A. Duerr & Co., Inc., of New York City, has been called by Lindsay Russell, the receiver. It will be held at 2 p. m. Wednesday, the 14th instant, in room 1,314 of the City Investing Building, New York.

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In the Retail World.

Edward Wilkie has been appointed manager of the new Buick branch in Philadelphia, Pa. Quarters have been obtained at 235-237 North Broad street.

George B. Levy, who has been secretary and sales manager for C. A. Coey & Co., of Chicago, Ill., has gone in business for himself. His concern will be known as the Standard Automobile Supply Co., at 1428 Michigan avenue.

I. R. Gardinier is the president and general manager of the newly organized Franklin Motor Co., which is to handle Franklin cars exclusively in Utica, N. Y. The company's headquarters are in the Commercial Travelers' building.

Distribution of Continental tires in northeast and middle New York State will hereafter be made through the Albany Hardware & Iron Co., of Albany, N. Y. Both the tires and their accessories will be sold under the same terms as at the New York headquarters.

The sale of all the property of the bankrupt R. O. Williams Automobile Co., of Columbus, O., by the receiver, H. C. Moore, has been confirmed by Judge E. B. Dillon. The purchaser was M. F. Loofbourrow, and the price $2,039.57, did not include the previous sale of one automobile for $147.50 to another buyer.

Representation in Detroit, Mich., for the Studebaker cars has been brought about by the erection of a garage and retail salesroom on the property of the Everitt-Metzger-Flanders Co., on Piquette street. The full line of Studebaker gasolene and electric vehicles will be shown in connection with the E-M-F models.

Rambler Branch Moves to New York.

The distribution of Rambler cars which has heretofore been handled from the Philadelphia branch of Thomas B. Jeffery & Co. will from now on be made from New York, the branch having been moved over after four years in the Quaker City. Headquarters have been obtained at 38-40 West Sixty-second street, in charge of Manager Hutchinson, and from 75 to 100 cars will be kept in stock. The wholesaling territory to be covered includes Eastern New York, New Jersey, Delaware, Maryland, Virginia and that part of Pensylvania east of Altoona. The New York City agency for the Rambler will remain with the Homan & Schulz Company.

Altruistic Association Assigns.

Wholly unappreciative of the beneficent services which it was ready to perform for them, the automobilists of the country have let the Association of Motor Car Owners, with offices in the Times building, New York City, get into such straights that it has been forced to make an assignment. The concern was incorporated March 7, 1907, with a capital stock of $10,000, "to audit and adjust automobile expense accounts, furnish supplies, act as agent and to perform other services for automobile owners." Its highwater mark for membership was 300, but the tide soon went down, and a disagreement among the stockholders last month resulted in its bank account being tied up. An assignment to John H. Winans has been signed by Joseph D. Belasco, president, and Benjamin B. Dolaro, general manager. The assets consist of cash in banks, $1,603; accounts, $2,100, and office furniture, value not given.

Dunlop Punishing Price Cutters.

Fighting for the maintenance of price agreements with the jobbing and retail trade is being carried on across the Atlantic as well as on this side, the Dunlop Pneumatic Tire Co. having recently instituted a series of actions for violations of contracts governing the prices at which it products should be sold. One defendant jobber has been enjoined and required to pay $200 not only for cutting contract prices, but for letting dealers have the Dunlop goods without obtaining in turn written agreements that they would hold to the figures set by the company.

Goshen May Get the Crescent.

Already rich in the number of motor concerns that have either started up or are going to start in its borders, Goshen, Ind., has another prospect in view, the Crescent Automobile Co., of Detroit, Mich., having indicated that it will probably move into one of the town's vacated soap factories. The company, which is making the Marvel and Excelsior cars, has secured an option on the building and will make its decision within a few days. No bonus or stock subscriptions are asked.

Edwards Again with Hartford Rubber.

Teddy Edwards, after casting his fortunes with a newly organized rubber company, which later went into a decline, and subsequently acting as a traveling representative for a Hartford jobbing house, has returned to the Hartford Rubber Works Co., with whom he made his most conspicuous success as a salesman. He will cover his old territory.

Webster's New Marketing Method.

By an arrangement between the Webster Manufacturing Co. and the Randall-Faichney Co., of Boston, Mass., the latter company will hereafter market the Webster gasolene gauge, in addition to its own line of oil guns and accessories. One set of travelers will push the sale of the gauge and the Randall-Faichney products.

Adding to the G & J Factory.

An addition costing $50,000 is being made to the plant of the G & J Tire Company at Indianapolis, Ind. Although night shifts are still running, the present capacity of the factory is overtaxed.

The Week's Incorporations.

Pontiac, Mich.—Oakland Motor Car Co., under Michigan laws, increases capital stock from $200,000 to $300,000.

Chicago, Ill.—Mitchell Automobile Co., under Illinois laws, increases capital stock from $1,000 to $20,000.

New Rochelle, N. Y.—Jones Speedometer, The, under New York laws, with $100,000 capital; to manufacture indicators and devices. Corporators—J. W. Jones, G. L. Holmes and T. S. Barrett, New York City.

Rochester, N. Y.—Elbridge Engine Co., under New York laws, with $25,000 capital; to manufacture motors, vehicles, etc. Corporators—L. J. Seeley, Rochester; G. E. De Long, Syracuse; W. H. Salmon, Buffalo, N. Y.

Rockaway Beach, N. Y.—Queens Motor Works, under New York laws, with $3,000 capital. Corporators—John P. Levins, 1422 Madison avenue; Edward Heinz, 1514 Madison avenue; Francis W. Heitman, 127 Summit avenue, New York City.

New York City, N. Y.—Cherry Autocab Co., under New York laws, with $25,000 capital; to make, sell and rent automobiles. Corporators—L. Stein, L. L. Doblin, 583 Broadway; A. S. Gilbert, 310 West Ninety-third street, New York City.

New York City, N. Y.—City Autocab Co., under New York laws, with $250,000 capital; cab livery and garage business. Corporators—L. F. Braine and Henry H. Gardiner, 32 West Fortieth street; Lloyd Milnar, 452 Fifth avenue, New York City.

New York City, N. Y.—J. Jensen, Inc., under New York laws, with $10,000 capital; to deal in and manufacture automobile parts. Corporators—Charles Jensen, Astoria, L. I.; Edward B. Wilson, Summit, N. J.; Frank Lockwood, 17 East Fifty-seventh street, New York City.

Death of Harold B. Stillman.

Harold B. Stillman, of Hartford, Conn., but well known in Philadelphia, Pa., through his connection with the Foss-Hughes Motor Car Company, died in Hartford on the 12th inst. He had been ill with typhoid fever for four weeks. His connection with the automobile trade commenced several years ago with the Mercedes Import Company in Philadelphia, after which he joined the forces of the Foss-Hughes company. Latterly he directed a large part of the activities of the commercial vehicle department of the Knox Automobile company, of Springfield, Mass., as well. Although only twenty-four years old, he had won many friends and no little reputation in the industry. The funeral takes place in Hartford to-day, the 15th inst.

Jones Resigns from the Knox.

J. H. Jones, formerly chief engineer of the Knox Automobile Co., Springfield, Mass., has resigned. He will take up general practice.

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RATING SALESMEN BY FORMULA

Maxwell-Briscoe System for Measuring up the Selling Organization—Method of Stimulating Its Efficiency.

While the efficiency of a selling organization is best expressed in terms of the goods delivered during a given period, many a sales manager has puzzled his head over the manifest unfairness of this method of rating ability when applied without direct reference to such local conditions as are governed by the extent of possible prospects, the costs of making sales and the hundred and one other factors which go to make up the burden of a salesman's life. In order to circumvent this difficulty as well as to blend the complete distributing forces into a more harmonious body, Benjamin Briscoe, president and general manager of the Maxwell-Briscoe Motor Co., has devised a system of rating salesmanship by formula. This altogether novel method of arriving at an important conclusion is incorporated into a new selling system which is about to go into effect, and which comprises a complete mapping out of the whole country under the management of a complete triangular organization.

The work of each member of the force is rated on a percentage basis according to the new formula method. Regular reports are transmitted to the headquarters of the company at Tarrytown, N. Y., and from the data they contain the "rank" is made out periodically, and published in the official house organ. At various intervals the names of the leaders in rank are to be published, and following this, the successful ones are to receive successive rewards according to their respective worth. The details of the system as told by its originator are as follows:

"The country has been divided into nine great districts and over each is a district manager. Each district is divided into blocks and over each block is a block man. Each block is divided into small sections and in charge of these are the dealers. That is the framework of the organization, with the exception that in nine of the great cities are established branch houses, each overseen by a branch manager.

"The district manager is, of course, responsible to the company for his district and for the sales made there. He comes into close contact with the block men who travel around constantly and help the individual dealers in every way they can.

"Every week, the district manager receives reports from all his dealers as to their progress. These are forwarded to Tarrytown and there referred to a department of statistics, where the average of each man will be computed according to formula. . . . . These averages will be compiled in the following classes: District managers, branch house managers, block men, branch house salesmen, regular dealers, and certificate dealers.

"The first formula will be used to compute the averages in the first three classes. Let X be the manager's average. Then

$$X = \frac{\text{Gross Receipts}}{\text{Population in units of 100 persons}} \times \frac{\text{Number of cars sold}}{\text{Total Cost of making sales}}$$

"Take for example a district of 3,500,000 persons. If 400 cars are sold for a total of $350,000, and the cost of selling them amounts to $4,000, the formula will read as follows:

$$X = \frac{350{,}000}{35{,}000\ (00)} \times \frac{400}{4000} = \text{unity} = 100\%$$

This means that if a thousand dollars is received from every ten thousand persons and the cost of selling does not amount to more than $10 per car, the manager's record will be considered perfect. Take another case, a more probable one: suppose a district of 7,500,000 persons takes 500 cars and pays for them a total of $500,000, the cost of making sales amounting to $8,000. Then the formula will read:

$$X = \frac{500{,}000}{75{,}000\ (00)} \times \frac{500}{8000} = \frac{25}{60} = 41\tfrac{2}{3}\%$$

"The formula for computing the averages of salesmen comprises only two factors: the total receipts and the population. Let X represent the dealer's average. Then

$$X = \frac{\text{Gross receipts in dollars}}{\text{Population in units of five persons}}$$

"Take another suppositious case: supose in a city of 500,000 persons, the dealer sells cars to the amount of $100,000. Then the formula reads:

$$X = \frac{100{,}000}{100{,}000\ (500{,}000 \text{ in units of } 5)} = \text{unity} = 100\%$$

"Suppose also that a city of 600,000 persons takes $20,000 worth of Maxwell automobiles. Then

$$X = \frac{20{,}000}{120{,}000\ (600{,}000 \text{ in units of } 5)} = \frac{1}{6} = 16\tfrac{2}{3}\%"$$

In regard to the further operation of the system he continues. "First, the photographs of the leaders are to be published in 'The Co-Operator.' Second, the year is to be divided into three periods of four months and the leading district manager, the leading branch house manager, the leading branch house salesman, the leading block man, the leading certificate dealer of the whole country, also the leading regular dealer of each district, will receive a medal. If he qualifies a second time, a larger medal is his; if he qualifies a third time, his medals are made into a watch fob and he is presented with a gold watch to wear with it. And the men, classified in the same way, who lead for the whole year, will receive automobiles."

PONTIAC PLANT FOR CARTERCAR

Drops Its Old Name, Raises the Capitalization, and Moves from Detroit—The New 1909 Models.

Simultaneous with an increase in its capitalization to a total of $350,000, the Motorcar Co., of Detroit, Mich., has made application for a change in the corporate name, with the result that the concern will in the future be known as the "Cartercar Company." These changes are the accompaniments of the company's removal from Detroit to Pontiac, Mich., where a factory very much larger than the Detroit plant has been secured for the production of the various Cartercar friction driven models and the manufacture of a high wheeled buggy type of vehicle. The factory which the Cartercar Company will occupy comprises the brick and concrete buildings heretofore used by the Pontiac Spring and Wagon Works, which cover two acres of ground and are five stories in height.

The work of moving the factory from its present situation on Twenty-first and Baker streets, Detroit, to the new location, will be commenced at once, and it is expected that all of the machinery and equipment will have been transferred and set in place within a period not exceeding 30 days, after which work will be commenced vigorously with a view to making possible the quick delivery of the 1909 models. The fact that the Pontiac factory is located at the junction of the Detroit, Grand Haven & Milwaukee and the Michigan Air Line railroads is regarded as an important freight and transportation advantage, which will expedite both the receipt of material and the shipping of cars.

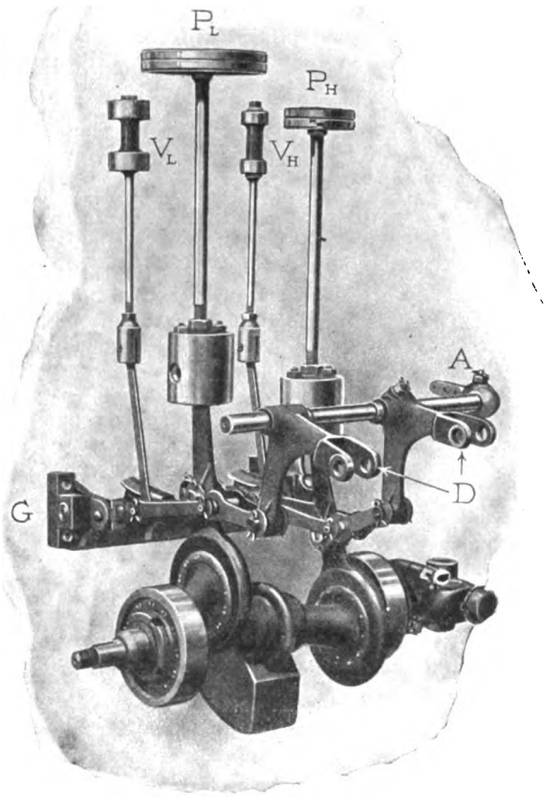
For the coming season, the product will comprise, among others, a new runabout, which is to be brought out under the designation of Model "K," and Model "G," a gentleman's roadster, which will be subject to a few refinements in finish and mechanical detail and will be continued for another season. Model "A" will be discontinued, to be succeeded by an entirely new touring car which is to be called the Model "H." In addition to these models the company will produce a high wheeled motor buggy, continuing the name "Pontiac" under which a former product of the Pontiac Spring and Wagon Works was offered.

Wichita's Show for Vehicle Dealers.

High-wheeled and other types of automobiles are to have a show by themselves at Wichita, Kan., during the annual convention of the the Southwestern Kansas and Oklahoma Implement and Hardware Dealers' Association. F. L. Wright, of Wichita, the secretary of the association, has arranged for the exhibition to take place in the Auditorium building, December 8-9-10.

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The Simplicity of
THE WHITE STEAM CAR



In the accompanying illustration are shown the working parts of the 1909 White steam engine. First of all will be noted the assembled crank-shaft which we showed, part by part, in last week's advertisement. Next we call attention to the high-pressure piston, P_H, and the low-pressure piston, P_L. Each stroke of each piston, up or down, is a working stroke. It will thus be seen that, as regards continuous application of power, the two-cylinder White engine is equivalent to an eight-cylinder gasolene engine of the usual four-cycle type.

The valve construction of the White engine is of extreme simplicity. There is but one valve for each cylinder, V_H being the valve for the high-pressure cylinder and V_L the valve for the low-pressure cylinder. The valves are of the balanced type—that is, the steam pressure is the same on opposite sides. Therefore, the valves do not work against pressure and the power needed to operate them is practically nothing. The valves are driven from the connecting rods by means of levers, as shown in the illustration. The engine is reversed and the "cut-off" is altered by simply tilting the guide, G. Those who are familiar with the valve mechanism of the gasolene engine will appreciate that the White construction is by far the simpler.

Write for circular containing details of the new White cars.

THE WHITE COMPANY

CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.
PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.
SAN FRANCISCO, Market St., at Van Ness Ave.
ATLANTA, 120-122 Marietta St.

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THE MOTOR WORLD

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NEW YORK, OCTOBER 15, 1908.

Parkway Criticism and Performance.

Notwithstanding the drawback of poor attendance and the inevitable minor difficulties which are involved in the launching of any great undertaking, the Long Island sweepstakes of Saturday last must be regarded a successful and altogether fitting inaugural for the course which has been so long in prospect. Whatever may have been the interest which naturally centered about the event because of its own merit, however, it was upon a relatively small portion of the circuit traversed by the cars that attention was chiefly focussed. The first section of the Parkway to be completed was on trial. That the result amply justified practically all that had been predicted for it is a matter of great credit to its founders, as to those under whose active management it has been built.

During the brief period of initial practice drivers who had been over the track were loud in their protestations that its bridges were approached at too steep grade, and that the curves were not properly banked. It was said that cars of medium or short wheel base approaching these points at high speed were thrown upward by the abruptness of the grades, and startling tales were told of experiences which were alleged to have occurred in which even large machines had literally jumped clear of the course. Another ground for criticism, which at first sight appeared to be more reasonable, was that the roughened surface of the course was likely to prove extremely hard on tires. The uniformity of the surface eliminated the danger of punctures, it was said, but, against this, the rate of tire wear, it was thought, would prove to be disastrously high.

Judged by the incidents of the sweepstakes, wherein thirty-odd cars of every possible description were raced side by side on both the course and the highway, these objections appear to be practically groundless. Indeed, it was a remarkable coincidence that of the few mishaps which occurred in the race, none of moment should have taken place on the cement track. Even the tire troubles were confined chiefly to the road, and though repeated changes were made at the grandstand control, most of the wear seemed to have been occasioned by the inequalities of Nassau County roads. Skidding was practically unknown on the track, and the maligned bridges failed to throw any of the racers over, as it had been predicted they might do.

One criticism only appeared to the onlooker to be valid. The underneath crossings, where the cars must pass through short tunnels, allow none too wide a margin for two machines to pass. In the event of one car overtaking another at one of these points an involuntary swing of the steering wheel, or a slight amount of side slip, might cause a serious disaster. This danger is augmented by the observed fact that some of the machines, instead of answering to guidance promptly, tend to slide at the forward end, the inertia of the vehicle being so great as to overcome in part the traction of the front wheels. This defect, however, may be chargeable rather to defective weight distribution in the machines themselves than to any fault of the course.

The cause of the Long Island Motor Parkway has been advanced as that of a private boulevard rather than a race course—hence the name chosen for it. The section completed, it must be admitted, presents few of the scenic possibilities which are a probable necessity to a popular motoring ground, though stretches yet incomplete probably do not possess this drawback. The flat, uninteresting countryside in the immediate vicinity of the grandstand, while admirably suited to a speedway, offers small inducement to the potterer. Hence, whatever the local attractions of other sections, it is likely that this end of the course will always remain rather more a speeding ground than anything else. That, however, cannot be construed into a crucial defect in the scheme as a whole.

Circular Units in Engine Rating.

A new turn is given to the subject of motor rating by the suggestion of Frederick Purdy that an extension of the electrical unit of the circular mil might be made adaptable to cylinder dimensions and even to such quantities as the sizes and areas of valves and ports. To the lay mind the scheme probably appears formidable in the extreme, as, indeed, might well be the case were it not considered rather in the light of a method of abreviation than an innovation pure and simple. Such, indeed, it really is. For the proposition is that of comparing, not piston areas and cylinder volumes, but the squares of diameters and these in turn multiplied by the strokes. Eliminate the term circular mil or inch or whatever, and merely bear in mind a constant numerical multiplier—always understood—and the principle is the same. The suggestion, then, is merely that of discarding from all ordinary comparisons a factor which is common to both terms of the ratio. The idea is that of simplifying a fraction by reducing it to its lowest terms.

So far as that alone is concerned, there appears to be small ground for objection to the principle or its application. Generally adopted, it would be of undoubted advantage, just as advantage lies in the adoption of any system of simplification Those who have wrought for the adoption of metric measure in shops where English is the rule, however, or who have striven to acquire the language of a new science, are well able to appreciate the probable confusion resulting from an attempt to alter the accepted method of expression. The idea is commendable. The probability of its acceptance, however, is not strong.

What is more to the point is the further suggestion that motors ought to be rated not on the basis of a common piston speed,

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but with direct regard to the speed range for which they are designed. Until all motors are designed under common formulas, no single speed factor can be absolutely fair to all. The single compromise being in some instances so far out of the way as to yield results which are almost absurd, it is proposed to establish two speeds, one high and the other low, which may be supposed to mark off the probable limits of effective power production. Carrying out the idea to the extent of supposing two such limits to be established by a number of engineers of repute in convention, it is plain to see that that nuisance, the hyphenated horsepower, which it is so desirable to do away with, would be more firmly fixed than ever. As both of the values would be established on a uniform and presumably scientific basis, however, the objection would carry less weight than does that against the present usage.

Somehow all the prophets who foretold the death of racing interest in so far as the motor vehicle is concerned, a year or so ago, appear to have been confounded. During the past summer what may—or may not be termed a revival of racing interest has taken place and with increasing zest, race after race has been run. Just at present the "season" is at its height, and all over the country events of this sort are taking place. Though the attitude of the public toward these demonstrations is admittedly not what it was a year or two ago in many respects, yet popular support is not lacking. The past week has been signalized by a greater number of "big" events of either local or general moment than perhaps any other week in the history of the sport. That two cities in such close proximity as New York and Philadelphia should have had two as important races as the Sweepstakes and the 200 miles contest in Fairmount Park is remarkable.

The sub-division of the duties of the Racing Board of the American Automobile Association and installation of a part of them under the management of the newly constituted Contests Board, is an interesting, if logical development. Whether the lightening of its burden will encourage the older body to the manifestation of a new sort of stamina and acumen in the handling of the "national" events to which its attention must now be confined, will be equally interesting to observe.

A. A. A. MAKES READJUSTMENTS

Racing Board's Duties to be Confined to Speed Contests—Technical Board Renamed Contests Board.

Despite the promise of revolutionary developments, the regular quarterly meeting of the Board of Directors of the American Automobile Association, which was called for Friday, Oct. 9, failed to provide the expected sensation. Instead of a startling conclusion on the question as to "whether the fiscal plan should not be materially modified" and made to "include a moderate fee for the clubs instead of graded dues," an unexpected arrangement was put into effect whereby the status of the Racing Board is altered, so that that august body, though retaining its name, will hereafter "have charge of racing and speed contests." The Technical Board hereafter will be known as the Contests Board, and will have charge of all contests other than racing and speed contests.

This action was included in a series of amendments to the bay-laws which were proposed in President Hotchkiss's report. This was read in the absence of the president himself, First Vice-President L. R. Speare, of Boston, presiding. The text of the amendments follows:

"First—That the Touring Board be hereafter called the Touring, Information and Maps Board, and that it have its headquarters in New York City.

"Second—That the Technical Board be hereafter called the Contests Board, and that it have charge of all contests other than racing and speed contests; for instance, all touring, technical, endurance and economy contests, as well as hill climbing.

"Third—That the Racing Board retain its name, but hereafter have charge of racing and speed contests."

A further amendment provides for the representation of each affiliated club by directors to be nominated from such clubs by the respective state associations. This increased representation, besides doubling the size of the directorate, is planned to arouse local interest among the individual clubs and also to strengthen the position of the national body itself.

Among the plans for the forthcoming year is a scheme for holding a competition for commercial vehicles, incentive to the establishment of an annual contest of this sort being furnished by the offer of Powell Evans, president of the Automobile Club of Philadelphia, to donate to the A. A. A. a $2,000 trophy for the purpose, under a suitable deed of gift. The offer was accepted on behalf of the association.

Provision for the representation of the A. A. A. at the forthcoming "Great White Show" of the American Motor Car Manufacturers' Association was made in the acceptance of an offer made by that body to allot space to the association, in addition to which it was decided to hold open meetings during the period of the show. The executive Committee having previously referred to the president and secretary the solution of the California situation, wherein two state bodies are in existence, the matter was clarified by the adoption of a by-law amendment legalizing such a condition in a State having such large territory. R. D. Inman, of Portland, Ore., was elected a director, representing the Portland Auto Club.

COMING EVENTS

October 14-16, Cleveland, O.—Cleveland Automobile Club's reliability run.

October 15, 16, 17—Michigan State Automobile Association's endurance run.

October 17-18, Los Angeles, Cal.—24 hours race meet, Ascot Park.

October 17, Hartford, Conn.—Automobile Club of Hartford's hill climb, Avon Mountain.

October 17, Kansas City, Mo.—Automobile Club of Kansas City's race meet, Elm Ridge track.

October 24, Long Island—Vanderbilt Cup contest.

October 31, Philadelphia, Pa.—Automobile Club of Philadelphia's sixth annual tour for the Brasier Cup.

November 23, Savannah, Ga.—Automobile Club of America's 200 miles light car race.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles race.

New Date for Fort George Climb.

Most of those who were involved in the outlaw Motor Racing Association are now concerned in the promotion of a hill-climbing contest which it is planned to hold on Election Day, Nov. 3, and in which they are endeavoring to embroil sundry others whom their affairs do not materially interest. Having applied for permission to run the contest on Fort George Hill on Oct. 17, and the permission having been refused by the Mayor of New York City on a technicality, a second application was drawn up and presented to the Board of Aldermen on Tuesday of this week, and was favorably passed upon. In the matter of sanctions, the Automobile Club of America was first appealed to, the original announcements of the affair being tagged with an "international" label. The A. C. A., however, with rare wisdom decided that as the event was of purely local character, its recognition must be gained at the hands of the American Automobile Association. Accordingly that body will be petitioned by the New York Automobile Trade Association, Inc., which is the promoting organization. Entries will close on October 31st.

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MOTOR PARKWAY'S OPENING RACE

Five Classes of Stock Cars in the Sweepstakes—Winners Make Fast Time—Lytle's Great Speed.

Almost a crowd of people saw the Long Island Sweepstakes, for stock cars, which on Saturday, the 10th inst., inaugurated the actual use of at least a portion of the new Motor Parkway. The expected stampede of visitors did not occur, and many of the lengthy special trains which the Long Island Railroad had waiting in rows with steam up, did not start for the reason that they were not needed, while the early morning procession of motor cars on the roads leading to the course was very slim.

The race or races—all the events being run at the one time—started at 9 o'clock in the morning and lasted well into the afternoon. Hardly a hint of anything suggesting the excitement of a Vanderbilt cup race was provided, with the exception of Herbert Lytle's rounds at terrific speed in the Isotta, with which he won the big event of the day. His average of 64.25 miles per hour exceeded the average rate made in any of the Vanderbilt cup races, and the way he drove gave all the appearance of the speed with which the timers credited him. Recently acquired marital responsibilities may have influenced Lewis Strang to caution, for while great things were expected of him, he drove his Renault carefully and unpicturesquely to a belated second position.

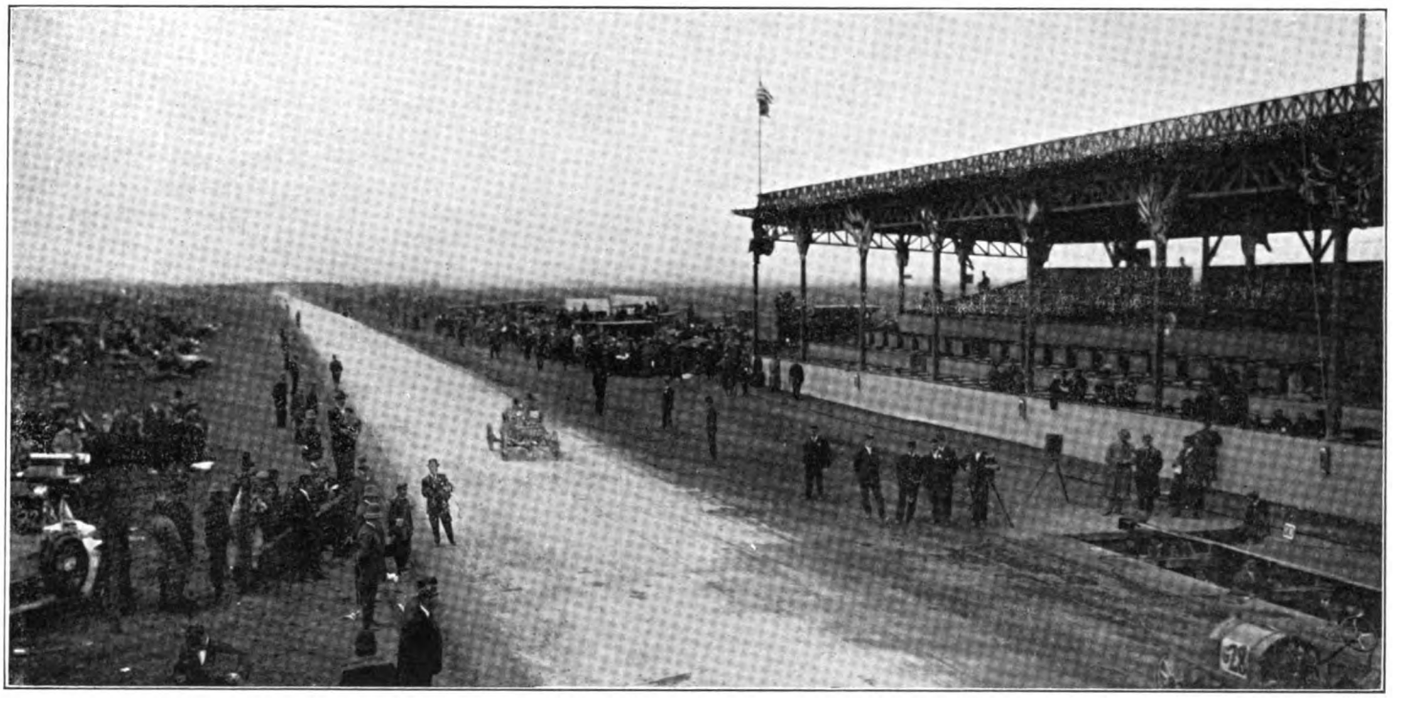
Of the 33 machines that lined up, the little cars were sent off first, at 30 seconds intervals. There were eight of them, competing in the Nassau sweepstakes, for cars selling at $1,000 or under. Their task was to go four laps, about 93 miles. Five minutes separated each bunch, and at 9:05 the first of the Jericho sweepstakes contestants, listed at from $1,001 to $2,000, was started. Seven competed in this class, to go 6 laps, or about 140 miles. Next came the seven Garden City sweepstakes cars, listed at prices between $2,001 and $3,000. They were required to go eight laps, about 187 miles. Only four contestants lined up for the Meadow Brook sweepstakes, for cars worth from $3,001 to $4,000. Nine laps was their portion, a distance approximating 211 miles. Last of all came the seven biggest cars, selling for $4,001 or more, to battle in the Motor Parkway sweepstakes. They had 10 laps to go, making 234.6 miles, the course being 23.46 miles, with about 8 miles of it on the Parkway and the balance dirt roads.

How it would all work out nobody could guess, as the bigger cars were certain to overtake their predecessors, and the way they set out from the starting line made it look as though they would do it quickly. Two of the first cars to start completed their first lap, however, without being overtaken, but thereafter the contestants in all the classes were soon strung around the course in one grand mixture. Subsequently the "Nassau" cars completed their four laps and the "Jericho" contestants their six laps, and when the 15 machines represented in these two groups had been flagged off and withdrawn, things were thinned out so much that the eight, the nine and the ten lap cars could go at top speed without fear of stumbling over the little fellows. The winners in these latter groups were finally winnowed out by the scorers, and the cars still running on the Parkway section of the course were permitted to finish at the grandstand.

Accidents were few, a broken arm being the limit of injury to those in the contest, although two spectators escaped less easily. The latter were struck with tools that were jounced from a car and which struck them in the head with serious effect. One car was overturned, while a broken axle, a few cases of running into the fence, and numerous minor mishaps that came more properly under the head of car trouble, prevented a total of 12 of the 33 starters from finishing. One car that was still running, was called off at the conclusion of the race.

Remarkably enough, though constituting more than a third of the total course, the Parkway was not the scene of any mishap. This fact encouraged the belief on the part of those responsible for its construction that it was in every way as safe as it had been planned to be, and that the adverse criticism of the abrupt grades forming the approaches to the bridges over the intersecting roads and of the sinuous turns, which had been rife up to the time of the race, was completely answered by the facts. Although private tests of the Parkway had been satisfactory, the Sweepstakes afforded the first service demonstration of how the cars would take the rises and the banking on the turns. As the contest contained such a variety of weights, speeds and power among the competitors, the affair gave about as complete a try-out as could be devised.

The idea that the hard concrete with its finely corrugated surface, which latter was obtained by "brushing" with steel brooms while the grouting was still in a paste-like state, would prove extremely severe on



THE MOTOR PARKWAY, THE GRANDSTAND AND "THE CROWD"

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tires seemed to fail of verification. The general opinion at the conclusion of the race was that the concrete, while presenting a surface like a magnified file in appearance, was really very easy on tires. Inasmuch as the Parkway is new, its freedom from dust may later be diminished by the dirt which will gather in the small depressions between the fine surface ridges, but during the sweepstakes the cars raised practically no dust whatever.



WAGNER CHECKS A FALSE START

By reason of the interest created through the fact that so many well known makers were competing with stock products and because of the curiosity as to how the Parkway itself looked and would bear the cars, the majority of the spectators felt well rewarded for their excursion. Conversely, as showing the merits of the competing machines, regardless of whether they won or not, and demonstrating the virtues of the Parkway as a special automobile road, the five-in-one Sweepstakes race was as conspicuous a success as had been promised.

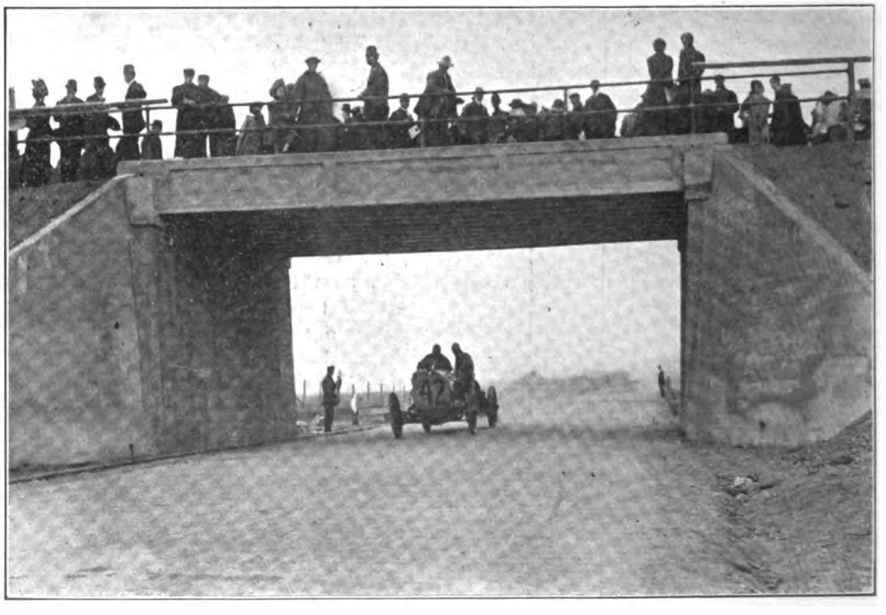
Approach toward the riotously chromatic grandstand, either across the flat fields on foot from the special trains or by motor car, gives the impression that the biggest thing in connection with the whole Motor Parkway must be the bill for wire fencing At a distance the gray wire strands are seen like a mist, particularly heavy at the grandstand's back and extending into the distance on both sides along the brilliantly white streak of concrete roadway. Nearer view shows the fencing enclosing numerous separate paths and windings to the grandstand itself, to the parking spaces, and the herding grounds for the vulgar, non-paying throngs. Some of the visitors with cars, who had paid $10 for parking space, were not able to find their way in, and in desperation apparently resorted to vandalism, using wire cutters to get through.

The 9 o'clock starting hour was easy for everybody, and even the misguided enthusiasts who had taken the 5:30 a. m. special train to the stand were subsequently reconciled to the fact that for lack of passengers it had not started until nearly 7 o'clock, since, as it was, they had a long, cold wait after arriving. For an hour before the start the space in front of the stand was filled with cars, the contestants being lined up before their respective repair pits for final tuning and preparation. As the starting time drew nearer, the machines bearing odd numbers, beginning with No. 1, were put Indian file on the right of the course, back of the line, and the even numbers on the left.

Bearing a big chronometer in its wooden box, one of the timers assisted Starter "Fred" Wagner, the latter counting off the last ten seconds to each driver, with a concluding slap on the back and a shout of "Go!" The formation enabled each car to come up promptly, so that there were no delays. In fact, some were a little too hasty in getting off, and "Wag" had to yell a furious "Come back" above the roar of the engines, while the moving picture men cranked away on the machines that they pointed at the scene.

It was predicted by many that the more powerful cars would arrive first, but the small No. 3 Buick, of the "N" class, was shortly seen skipping over the distant bridges and rounding into the home stretch all alone. It was cheered heartily. The No. 1 Mitchell, which had started first of all, next hove in sight, and was quickly followed by bigger cars in the other classes, after which the alphabet was badly jumbled, with "M," "G," "P," "N" and "J" cars coming by in mixed order.

As the race progressed it became evident that the placing of the supply pits directly in front of the grandstand was an excellent thing in centralizing the interest at that point, and giving spectators the opportunity of seeing one of the real features of an automobile race without having to go around the course on the chance of being at an individual supply station just at the time that a car comes in. The roadway in front of the stand is much wider than on the regular parkway, not only to allow plenty of room when machines that have stopped are standing at their respective sup-



FREE "GRANDSTAND" ON OVERHEAD BRIDGE

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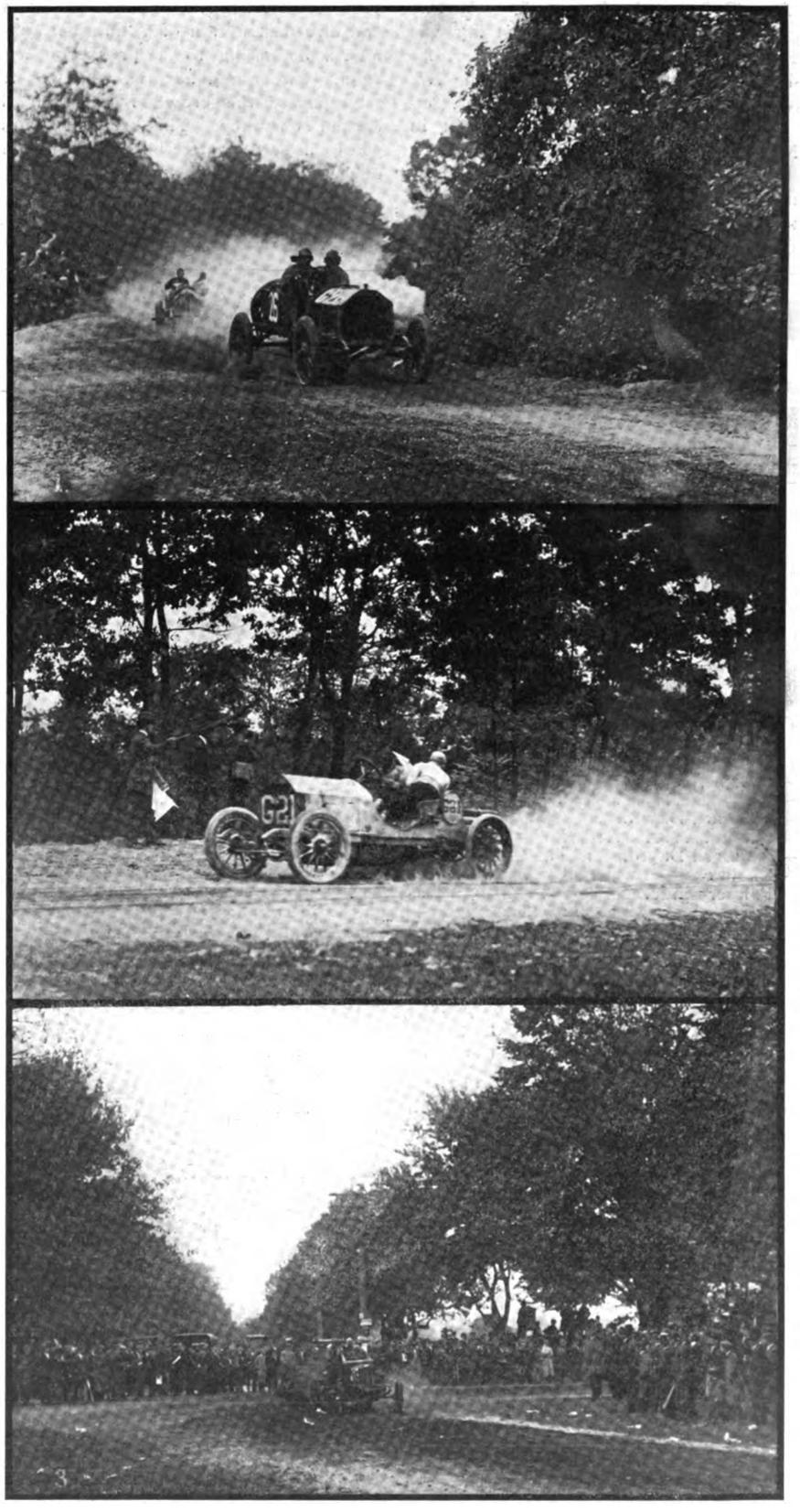
ply stations, but also to invite cars to pass each other there. By some strange freak, however, there were only two instances of such passages near the stand, and the difference in their class and speed robbed the incidents of any thrill. It was in the stopping of the cars, to replenish oil and fuel or to make repairs, that most entertainment was found.

Whenever a car stopped, the pits resembled a spirit cabinet when "Little Bright Eyes" waves a tambourine or other objects over the top, or mischievous "Joe, the Dwarf," tosses out slates, pads and guitars; for all that could be seen were the mysterious hands from the depths, reaching upward with tires, wrenches, fuel cans, and in one case even a cylinder. Only the driver and mechanic were allowed to work on a car, and snatching the supplies that would so magically appear, they would labor hard to get away again. At $100 and $200 apiece per race, the pits should make money for the Parkway.

Soft earth had been placed at the point where the cars halted, and as it began to loosen and get dusty, "Willie" K. Vanderbilt, Jefferson DeMont Thompson and other notables responsible for the Parkway took a hand at watering it down with hose, being "snapped" in the act by many cameras.

Meanwhile, Wagner with a green flag was informing some of the passing cars that it was their last lap, or with a checkerboard flag was calling off those who finished their distance. Chairman Thompson's prism binoculars were brought into requisition to pick out the cars as they appeared, so the right ones might be flagged. While suitable for this service, they were by no means powerful enough to enable Thompson to see Robert Lee Morrell, although the two gentlemen were in close proximity a number of times. Humerous complaint was made by the drivers that they could not tell Wagner's green flag from his flaring green handkerchief, but happily no serious confusion was caused by the similarity.

In the Nassau sweepstakes, the No. 3 Buick, driven by Easter, was the first to get the checkered flag for having finished the four laps, with F. F. Cameron's N. 4 Cameron in second place, and Olney's No. 1 Mitchell third. The winner's fastest lap for the 23.46 miles was 30:55. The 6-lap Jericho sweepstakes brought in Burns's No. 11 Chalmers-Detroit as the winner, with Ainslie's No. 16 Chalmers-Detroit in second position, and No. 18 Mitchell, driven by Zirbes, third. The No. 16 made the fastest lap in its class, in 24:57. Coming from Trenton, N. J., as an "unknown," the No. 28 Sharp Arrow, driven by its maker, W. H. Sharp, created great surprise by winning the 8-lap Garden City sweepstakes from better-known cars, making faster average time than the winner in the class above it. The best lap was 24:03. Second place was won by No. 27 Knox, with Bourque driving, while Miller's No. 21 Stoddard-Dayton landed third.



SKIDDING ON TURNS. 1, ROBERT BURMAN, BUICK. 2, ALBERT MILLER, STODDARD-DAYTON. 3, ARTHUR SEE, MAXWELL.

Between the Rainier, No. 32, owned by Mrs. Cuneo and driven by Disbrow, and the No. 35 Allen-Kingston there was a long battle, the latter finally proving victorious in the 9-lap Meadow Brook event, its fastest lap being 23:58. Hilliard's No. 34 Lancia was third. With one tire flat, Lytle finished early in the 10-lap Motor Parkway group,

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his No. 42 Isotta having made only one stop, for fuel and oil. His fastest lap was 21:11 and his average 21:55—a wonderfully consistent performance. Strang in the No. 46 Renault was about 10 minutes lower, getting second, which Lechleiter brought in the No. 47 Itala third.

One of the Motor World's war correspondents labelled with a blue press badge wandered over to the "S" turn, half-way between the grandstand and Westbury, in order to observe the happenings as the cars rounded the two curves on the cement course, which were reputed to be so dangerous. It had been rumored that the turns were not banked sufficiently to permit the cars to take them at high speed without upsetting, and, further, that the bridge grades were so abrupt as to cause the cars to jump dangerously as they passed them. Yet the only disaster he witnesed was the smashing and dire destruction of a "Manhattan" pool board, belonging to a prosperous-looking "gent" with a red necktie, who was trying to separate the crowd from their hard-earned currency. This refined gambling game, it seems, angered a citizen, who at once proceeded to demolish the layout.

As for the contestants, most of the cars, big and little, took these obtuse turns at very near maximum speed. There was some skidding, of course, but many of the long wheel-base cars slewed less than the shorter ones—due, to a large extent, to more expert handling by some of the more experienced pilots, perhaps. While the banking of the turns is not as steep as might be expected, it was found to tell considerably on the equilibrium of the cars as soon as they would commence to skid. Kilpatrick's Hotchkiss, Lytle's Isotta, the Chalmers-Detroit "Bluebird" and numerous others would start to skid their rear wheels toward the outside when rounding the bend, but after swinging but a few inches from their course the inclined banking would hold them in proper balance and not permit the dangerous side-swipe that would occur on an ordinary road. Obviously the certain degree of roughness of the concrete surface gave the tires good traction, and did not allow them to slide in the same manner that asphalt, greasy and otherwise, often does.

One remarkable phenomenon was observed. On many of the faster machines the front wheels would pound and bounce around the curves, making steering at high speed an operation requiring the best of drivers' skill. Instead of rolling along in the right manner, the speed of the car and the sway of the rear wheels would force the front ones to slide ahead and scrape along at an angle, despite the driver's efforts to aim them in the right direction. This, of course, was due to going at a rate that would upset such cars on ordinary roads.

The manner in which the various drivers hit these curves was interesting. Some would swoop away out on the upper rim, almost near enough to the edge to topple over, while the majority of the pack stuck to the

MOTOR PARKWAY SWEEPSTAKES, 234.6 MILES.

No.	Car.	Driver.	1	2	3	4	5	6	7	8	9	10	Total Time
P42	Isotta	Herbert Lytle	22.17	43.42	65.06	86.25	107.49	129.00	154.09	176.09	197.30	219.10	3:39:10
P46	Renault	Lewis Strang	22.17	46.26	69.34	92.35	115.29	138.10	160.37	183.15	205.48	230.25	3:50:25
P47	Itala	G. Lechleitner	25.5(	51.23	76.30	101.10	126.11	153.02	178.21	203.23	228.15	253.09	4:13:09
P43	Simplex	F. Lescault	34.3	58.27	81.22	111.22	135.02	158.20	181.45	205.12	228.57	256.21	4:16:21
P41	Chadwick	W. Haupt	26.13	50.35	75.43	103.16	127.51	154.32	192.49	220.24	244.03	267.57	4:27:57
P45	Knox	Chas. Basle	22.46	71.01	137.03	173.30	214.23	252.36					
P44	Hotchkiss	J. Kilpatrick	23.46	47.19	70.55	93.58	116.43						

Best lap, Isotta, lap 6, 21:11. Winner's average speed, 64.25 miles per hour.

MEADOW BROOK SWEEPSTAKES, 211.14 MILES.

No.	Car.	Driver.	1	2	3	4	5	6	7	8	9	Total Time.
M35	Allen-Kingston	H. Hughes	25:3	54.30	79.11	103.19	127.17	164.15	188.42	214.23	240.47	4:00:47
M32	Rainier	L. A. Disbrow	27.4	55.27	83.16	110.16	137.20	164.13	190.54	217.32	243.42	4:03:42
M34	Lancia	W. M. Hilliard	29.4	58.35	86.45	114.52	149.09	177.48	206.05	235.08	264.15	4:24:15
M36	Rainier	Axel Peterson	28.1	75.14	104.09	130.12	156.14	182.14	208.02	233.24		

Best lap, Allen-Kingston, lap 5, 23:58. Winner's average speed, 52.6 miles per hour.

GARDEN CITY SWEEPSTAKES, 187.68 MILES.

No.	Car.	Driver.	1	2	3	4	5	6	7	8	Total Time.
G28	Sharp Arrow	W. H. Sharp	24.48	49.19	73.45	97.56	121.59	150.05	174.47	199.34	3:19:34
G27	Knox	W. Bourque	39.33	87.13	115.11	142.30	168.09	197.46	222.32	249.11	4:09:11
G21	Stoddard-Dayton	A. R. Miller	38.39	58.06	84.25	109.37	162.22	188.59	214.54	251.52	4:11:52
G26	Buick	R. Burman	23.40	53.29	81.45	106.41	130.48	154.09	191.01		
G25	Stoddard-Dayton	H. Tuttle	29. 7	67.19	93.33	120.02	147.53	193.04			
G22	Chalmers	L. B. Lorimer	24.38	62.13	104.34	130.21					
G24	Palmer-Singer	Ray Howard	23.22	46.29							

Best lap, Palmer-Singer, Lap 1, in 23:07. Winner's average speed, 56.4 miles per hour.

JERICHO SWEEPSTAKES, 140.76 MILES.

No.	Car.	Driver.	1	2	3	4	5	6	Total Time.
J11	Chalmers	W. R. Burns	29.10	57.07	87.41	119.08	150.31	182.36	3:02:36
J16	Chalmers	G. J. Ainslie	39.26	64.23	96.28	128.52	161.25	192.00	3:12:00
J18	Mitchell	F. Zirbes	49.01	87.45	123.55	156.13	189.04	226.07	3:46:07
J13	Maxwell	Charles See	50.54	80.54	109.18				
J15	Selden	Charles Young	29.42	103.14					
J12	Mitchell	C. A. Kerchoff	53.57						

Best lap, No. 16, Chalmers, lap 2, in 24:57. Winner's average speed, 46.2 miles per hour.

NASSAU SWEEPSTAKES, 93.84 MILES.

No.	Car.	Driver.	1	2	3	4	Total Time.
N3	Buick	Hugh Easter	30.55	67.10	97.23	127.52	2:07:52
N4	Cameron	F. F. Cameron	33.54	67.5	101.54	135.52	2:15:52
N1	Mitchell	W. Olney	32.28	71.04	108.12	142.23	2:22:23
N5	Mitchell	H. R. Cousins	33.04	68.05	113.42	150.02	2:30:02
N7	Buick	L. H. Titus	43.32	79.43	119.09	150.04	2:30:04
N6	Cadillac	F. W. Darnstadt	44.02	94.13	135.06	194.13	3:14:13
N8	Reo	A. F. Camacho	36.29	72.41	108.30		
N2	Gyroscope	C. White	49.53	105.05			

Best lap, No. 3, Buick, lap 3 in 30:13. Winner's average speed, 44.03 miles per hour.

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SIGNALING AT THE SUPPLY STATION ON THE JERICHO ROAD

center of the white path. Lytle, Lescault and others would go thundering around in the center, skidding more or less, and apparently careless of consequences, while Lewis Strang would stick to the inside pole on most laps and skid hardly an inch. A number of the small cars also hugged the inside, this keeping them out of the big fellows' way and shortening their journey a trifle.

This same "S" curve is well laid out and beautifully banked, but in one respect at least it is a disappointment. For those who looked toward it as the scene of possibly sensational developments it seems destined to be barren of spectacular elements.

It was pleasant to see that sturdy son of Long Island, whose barnyard was temporarily given over to the purposes of a roadside supply station, wandering over his domain. He was observed to smile as he thoughtfully kicked his toe into the ruts formed in the soft turf by the wheels of the cars and it seemed he must be ruminating on the relative profits derivable from tilling the soil and farming it out to the Long Island Motor Parkway to be in turn farmed out to the entrants in the race, in 10 by 12 foot sections at the rate of $50 per 120 square feet, or thereabouts.

He was not alone. In addition to its rightful lord that profitable spot was peopled by no less than 199 other persons, including attendants at the stands, the telephone men and "the crowd." Scattered along the course at ragged intervals were small groups of local residents with an occasional motoring party—another two or three hundred perhaps, within a range of a mile each way. The section thus outlined was what was vaguely known to the press men and spectators at the grandstand as "the other supply station."

Arrangements here made for the convenience of the drivers were neat if not gaudy. Within the yard in question, some 20 feet back from the road, was constructed a sort of counter of plain lumber, back of which were stretched partitions for some 12 feet, forming small enclosures of the stall order, in which the contestants' supplies were packed. The virgin turf of the yard formed a siding onto which the cars could run from the course, while laid up for replacements. A stand directly in front mounted the telephone station, while various signaling devices erected by their assistants for the guidance of drivers in the race completed the embellishment of that section of the course.

From the spectacular point of view, "the other supply station" was not a distinguished success. The road before it lies fairly straight and declining slightly in the direction of travel. Half a mile away to the



MAXWELL AND SHARP ARGUING THE COURSE

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east the cars popped into view over a notch in the trees which marked the horizon line. A couple of hundred yards to the west, a combination of down grade and reverse curve occasioned some little side slipping, but nothing involving even thrilling consequences.

Also as a point of general observation of the race, the station was not advantageous, owing to the laxity of telephonic interchange with the grandstand. Up to 11 o'clock or thereabouts, bulletins were sent in with a fair degree of regularity, so that in so far as the status of the leading cars in each of the five groups of the race were concerned, there was no lack of information. The results as received, were chalked up on a small blackboard and promptly erased. Nothing was said of mishaps or delays, however, and the spectators were forced to do their own "clocking" in order to determine for themselves how matters fared with their favorites.

"Station stops" at the supply station began fairly early in the race. Mostly the cars were in need of supplies and tarried only a moment or two—the drivers and mechanics working feverishly while the attendants passed them what they required; or bungled things sadly in the madness of their haste. Thus:

Mitchell No. "N-1" stops for water and oil, and before leaving the mechanic ties a handkerchief over the radiator inlet in order to provide free ventilation. Cars No. 35 and 36 pass in order, both running prettily, and then the "J-18" Mitchell drops in for a supply of lubricant. Strang, whose Renault evinces an apparent tendency to switch its rear end slightly on the reverse curve just below, rumbles by presently, with the six-cylinder No. "44" car close behind. The Maxwell, No. "J-13" drops in presently, and its driver explains, while taking on fuel and oil, that his earlier rounds had been delayed because of water splashing from his radiator. This had short-circuited the current and necessitated a complete change of plugs before regular running could be got out of the car.

Only the few large cars are left in the running, now, and they pass and repass with such precision that there is small interest in their flight, save to those who have kept consistant scores of their own from the very first lap.

Lunch boxes are in evidence. Packages of pie and crullers are being unfolded here and there, while beside the road a constantly augmenting procession on foot is winding its way down toward the cross roads where cars and carriages are waiting for their occupants. Two big cars pass within three minutes of one another. Then a solitary driver rambles down the course at high speed.

"He's on his last lap," says one.

"No, the next to the last—he's got one more to go," says his companion.

But the question seems to have lost interest to the majority of those who yet remain.

DE PALMA "IT" AT PROVIDENCE

He Breaks Track Record and Wins Free-for-All—Race for "Specials" Develops Hot Contest and a Protest.

Before a crowd of fully 8,000 persons at Narragansett Park, Providence, R. I., on Saturday, October 10, Ralph De Palma, driving the Fiat Cyclone, broke the local track record for the mile, when he covered that distance in 52⅗ seconds. The best previous performance for the mile in that locality was 0:54. De Palma's time on Saturday was only 1⅗ seconds slower than his recent world's record of 0:51 flat, made at St. Paul, Minn., on September 5th.

The races at Providence were held under the auspices of the Rhode Island Automobile Club and barring two accidents, formed an interesting program, though rather monotonous in that eight of the ten events were at five miles distance.

Both accidents were due to a defect in the track near the three-quarter post. Joseph Wilcox, of Beverly, Mass., taking the turn in one of the events, was hurled into a ditch when his Cameron skidded and crashed into the rail fence. Wilcox sustained an injury to his spine as well as a nervous setback, but it is expected that he will recover.

In another race Arthur Lee, driving a Corbin car, was thrown out, fracturing his shoulder when his machine reared, turned turtle and pinned him beneath it.

The first event was for gasolene stock cars rating from 40.1 to 60 horsepower, and boasted but four entries. Grant, driving a Locomotive car, won easily, taking the lead at the start and increasing it throughout the five miles. L. S. Rogers's Welch took second, with a big lead over Cook's Stearns. Grant's time was 5:14⅘.

Oliver Light captured the next, which also was a 5 miles event, but for cars rated between 15.1 and 24 horsepower, driving his Chalmers-Detroit over the course in 6:48⅗. It was in the second round of this contest that Wilcox's Cameron car went over the bank, and James Meyers in his Ford, who was close behind, wrenched his machine by applying the emergency brakes, so that he was forced to withdraw. Edgecomb in a second Ford, took second place.

Following De Palma's trial, in which he skirted a mile in 0:52⅗, a special race for gasolene cars of unlimited power, was run in three heats. Grant and Capron fought a hot duel in the first heat, the latter taking it with a Pope-Hartford. The two cars finished only ⅕ second apart, after having run within 50 feet of one another the whole distance. In the second heat, which A. W. Merriam won, with a Welch, Arthur Lee came to grief. Grant and Capron again came together in the final and fought courageously, driving side by side all the way. Capron had the advantage in the stretches, but was outgeneraled at the turns by his antagonist, who finally won in 5:13⅗. It was due to some misapprehension as to the legitimacy of Grant's methods of handling these same turns, however, that Capron later entered a protest, claiming that racing rule 66 of the American Automobile Association code had been violated. The rule in question deals with passing on the track and it was claimed that Grant cut in to the pole unfairly more than once.

In the free-for-all De Palma, in the Fiat Cyclone, drove around and around Grant's Locomotive, making six miles to his five. J. Crafford, in another Fiat, was an "also drove." De Palma's fourth lap was covered in 0:52⅖, which was ⅗ second better than his exhibition trial. His fifth was finished three-quarters of a mile ahead of his nearest competitor, and continuing the running at high speed, out of sheer bravado, he lapped the Locomotive car before it finished.

This race was to have been the big competition feature of the afternoon, as L. F. N. Baldwin, a local driver, was expected to give De Palma a close competition. The former, however, disabled his car while practicing in the morning, which prevented his appearance, much to the crowd's disappointment. The summaries:

Five miles, stock steam cars—Won by F. W. Marriott, Stanley; second, W. R. Files, Stanley; third, A. C. Trimble, Stanley. Time, 5:28⅗.

Five miles, gasolene stock cars, 15.1 to 24 horsepower—Won by Oliver Light, Chalmers-Detroit; second, C. A. Edgecomb, Ford; third, James Meyers, Ford. Time, 6:48⅗.

Five miles, gasolene stock cars, 40.1 to 60 horsepower, prizes $75 and $40—Won by Grant, American Locomotive car,; second L. S. Rogers, Welch; third, C. Stafford, Stearns. Time, 5:14⅘.

One mile exhibition, against time—By Ralph De Palma in the Fiat Cyclone. Time 52⅗ (record for the track).

Five miles "Special," gasolene stock cars, all horsepowers—Final heat won by Grant, American Locomotive; second, H. A. Capron, Jr., Pope-Hartford; third, Stafford, Welch. Time, 5:13⅗.

Five miles, free-for-all—Won by Ralph De Palma, Fiat Cyclone; second, Grant, American Locomotive; third, Crafford, Fiat. Time, 4:26.

Five miles, motorcycles, 20 inches displacement—Won by B. A. Swenson, Indian, time, 6:35⅖; second, E. L. Buffington, Indian, time, 6:38.

Five miles, motorcycles, 30 inches displacement—Won by B. A. Swenson, Indian, time, 5:37⅖; second, J. McLaughlin, Merkel, time, 5:42⅕.

Five miles, motorcycles, 60 cubic inches displacement—Won by B. A. Swenson, Indian, time 5:28⅕; second, E. L. Buffington, Indian, time, 5:53⅗; third, J. McLaughlin.

One mile, motorcycle, exhibition, against time—By B. A. Swenson. Time, 1:02⅗.

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BIG RACE AROUSES PHILADELPHIA

Robertson Wins $2,000 Cup in 200 Miles Contest—Thrilling Duels for Position—Mulford Makes Fastest Lap.

Quite the liveliest spectacle witnessed by staid old Philadelphia in all the dashing program of its Founders' Week was that furnished by the automobile race of Saturday last, 10th inst. Barring only the undignified squabble for seats in the grandstands lining the route of its elaborate historical pageant, no review was more exciting than that of the sixteen cars which flashed about the tortuous circuit in stately Fairmount Park, with remarkable precision and in an endless succession that suggested a flying parade of machines.

To cover the 200 miles of the course, it was necessary for the drivers to make 25 laps of eight miles each. Sixteen cars started, and one was eliminated after completing one round trip. Of the remainder four finished with honors, a fifth car being the only other one running when the race was called off by the officials. Throughout the contest the majority of the contestants kept close to an average of ten minutes to the lap, so that the spectators who lined the greensward by the side of the boulevards had never more than a moment or so of inaction. The first event of its kind for the Quaker City, it set a mark of popular esteem that will be hard to equal another time.

George Robertson, driving a 40 horsepower Locomobile, added fresh laurels to his crown by winning the contest and lifting the $2,000 cup. His time was 4 hours 2 minutes 30 seconds, and he made an average speed of nearly 50 miles an hour. This is Robertson's second victory within a week, and adds brave distinction to his conquest of the Brighton Beach 24 hours race on October 2 and 3.

In the Philadelphia race he beat his nearest competitor, Patchke, by more than 12 minutes. The latter, in the Acme, won second honors after a lively duel with Mulford's Lozier, in 4:14:54. Mulford, in addition to scoring third in 4:17:26, won the North American's cup for driving the fastest lap—his tenth. To accomplish this, he was forced to make a circuit of the course with its numerous dizzy turns in 8:32. Bert Maucher, with the Peerless entry, was fourth, in 4:21:26, the race being called off as soon as he had crossed the tape.

When the contest was flagged at this point, no less than 11 of the original contestants had been forced to drop out, owing to mishaps, although strange to say, despite the numerous accidents, none of the drivers suffered serious injuries.

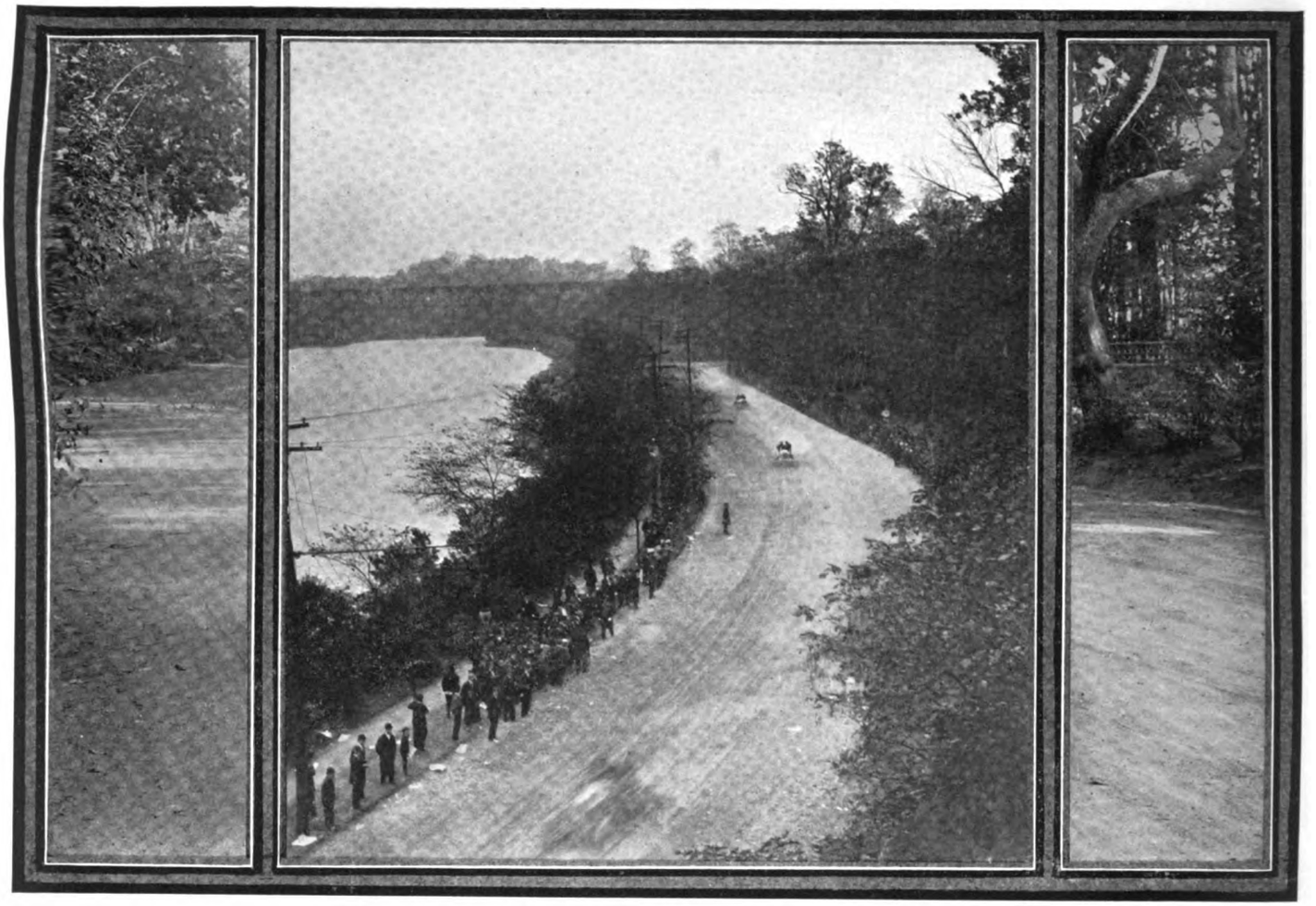
Promptly at 7 o'clock Herbert Bittner at the wheel of the Maxwell car, left the tape and started the race, a deafening siren whistle announcing that fact to the quarter of a million people reputed to be scattered about the course. The other contenders followed in regular succession, no incidents of an untoward character occurring to mar the start.

No sooner had the 16th and last car started than the cry of "Car coming!" went up, and George Davis's Apperson "Jackrabbit" leaped into view at the grandstand. He had passed Bitner's Maxwell, and was putting on high speed to retain the lead. Next appeared Maucher's Peerless and Salzman's Thomas; then a string of cars followed in such close succession that the



GEORGE ROBERTSON, LOCOMOBILE, "LIFTING THE CUP"

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IN HOT PURSUIT ON THE BANKS OF THE SCHUYLKILL

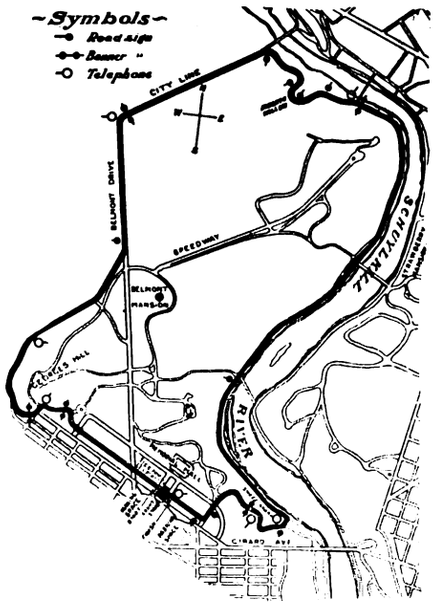
timers could scarcely catch the numbers, let alone the exact times.

Salzman had forced the Thomas up close to the Jackrabbit and the Palmer & Singer was running in great form under Wallace's guidance. Following were Mulford, Robertson and Maucher, with the rest of the field drawing close together.

For a few minutes there was a lull at the grandstand and then news of the first accident was telephoned. While scarcely out on his second lap Harry Michener blew up a rear tire in making a very bad turn at Fifty-second street. A wild skid across the macadam road caused the car to upset, throwing out the driver and Harry Lynch, his mechanician, and breaking a wheel, which caused the car's early withdrawal. Michener and his mechanician were scarcely dragged from the road when Mulford, coming around in the sister car, skidded at the self-same spot, swerving wide and running off the course into the grass, but continuing on.

Salzman, who made the fastest time on the first lap—8:57—continued his high speed and was leading by a good margin in the second, with Maucher's Peerless, and Wallace in the P. & S. hot upon his trail. Florida's Locomobile was in fourth place and Davis's Jackrabbit fifth. Salzman retained his lead until the fourth round, when Wallace displaced him with a mad whirl.

About this time the scouts around the course wired in that Bitner's Maxwell had



MAP OF FAIRMOUNT PARK COURSE

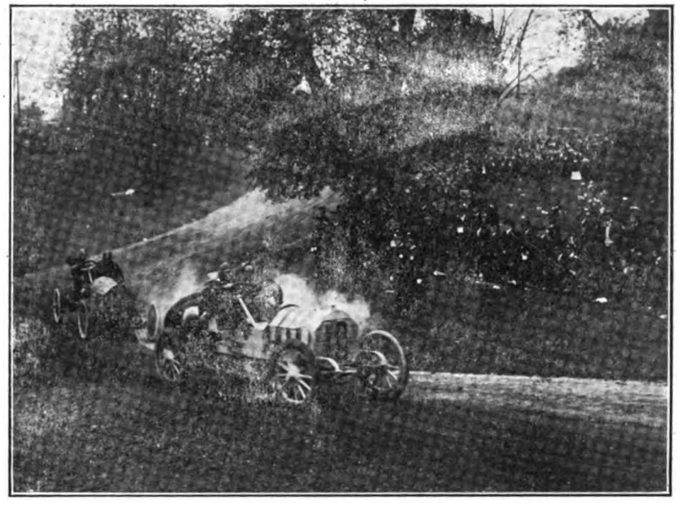
broken a crank shaft and would have to discontinue. With Wallace still holding the first position in the fifth lap, and with the other leaders in about the same order, it was learned that La Roche had been obliged to give up, his Pullman having been laid aside with a broken rear wheel.

Eliminations followed more rapidly after this. Robertson and Florida, the Locomobile team, had not been distinguishing themselves particularly up to this point, but seemed waiting on the order of events, and Wallace was still retaining his lead in the seventh lap, when the hoodoo sat on two more cars. Ireland was placed on the retired list, when the magneto on his Stoddard-Dayton went wrong, and Salzman's Thomas, one of the big favorites, was put down and out, with a broken crank shaft.

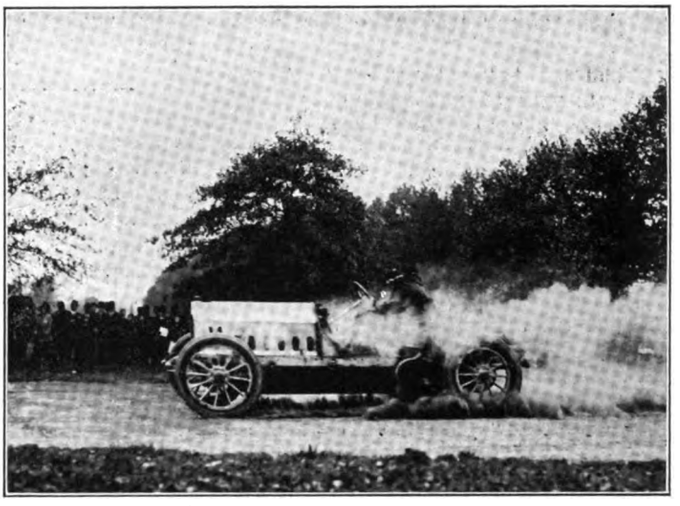
It was on the next circuit that Robertson made the people sit up and take mental note, when he stole fourth, with Florida sticking close behind and passed Wallace. Thereafter Robertson continued to hold his own and was not headed for the remaining two-thirds of the race, save only once by his team mate, and then only for one lap.

On the ninth, tenth and eleventh rounds, Davis pushed his Apperson with all his might and was no mean challenger, while

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ROBERTSON, LOCOMOBILE, LEADING WALLACE, P. & S.



PATCHKE, ACME, WHO FINISHED SECOND

Wallace, in a desperate effort to regain his advantage, pressed the "Bunny" hard and held fourth position against the field. Swinging into the finish of the twelfth he tied with Davis for third place, only to lose it in the next whirl by a bare 2 seconds.

Zengle, who had been piloting the Pennsylvania in a fairly consistent manner, gave up the ghost soon afterward, and a few minutes later, Frank Yerger, whose Studebaker had been performing well, though not among the foremost, suffered a broken wheel at a sharp turn, ripping out the spokes completely. A new wheel was put on, but the delay spoiled his chances.

Robertson, who was leading the pack by four minutes and more, showed no let-up. Between the 14th and 15th laps, however, Wallace caught up with the other Locomobile driver and tied for second place, only to yield again in the 16th. In the 17th Florida had jumped past Robertson, and was leading him by 10 seconds at the end of the lap. He did not hold the advantage for Robertson soon went up to the lead again.

A remarkable incident of the 19th circuit occurred when seven cars were discovered to be on the same lap simultaneously, with but 8½ minutes between the leader and last car and but little more than 1 minute separating the leading trio. Indeed, for two entire laps, or until the 21st, the cars were in the same order. Then the "hoodoo" again appeared. Bergdoll in his Locomotive, anchored on Belmont avenue and went out of the running, and Wallace, who had driven such a splendid race, was forced to retire. George Davis's misfortune was every bit as tragic in the next lap, when his Jackrabbit fell. He had been speeding at a rate that endangered the two Loco drivers' chances considerably, and it was a hard blow.

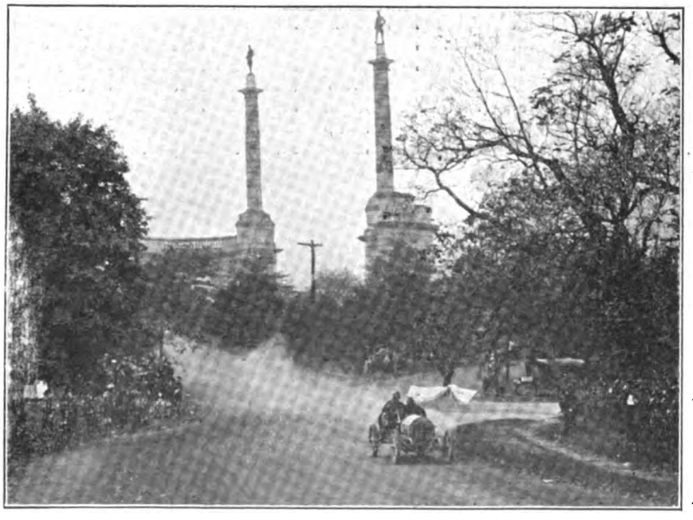
In the mean time, Patchke, in his Acme, had been slowly but surely creeping to the fore. Davis's breakdown swung him into third place. Mulford followed. Bert Maucher, the Peerless driver, had been handicapped by tire troubles about this time to such an extent that he was unable to take advantage of these other mishaps.

The 23d lap proved James Florida's Waterloo and spoiled the second Locomobile's chances. His break down at this critical moment gave the Acme the place directly behind Robertson. Patchke set out for the leader, but the lead was too great for him to overcome. At the end of the 24th, Florida dropped out altogether and was not able to fight for a place at the finish.

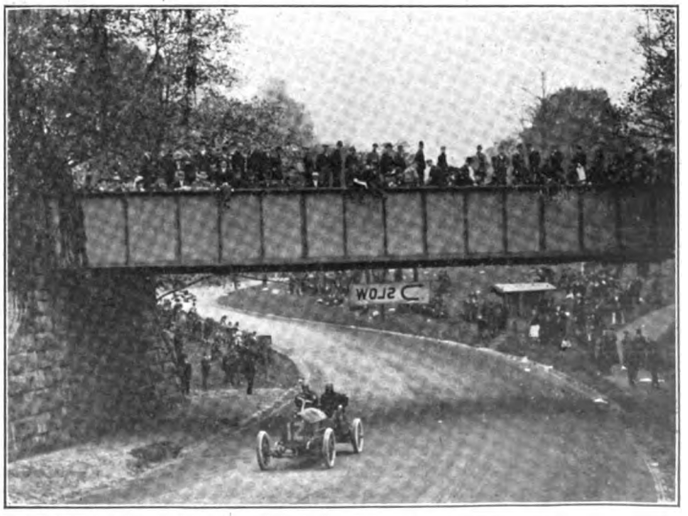
The duel between Mulford and Maucher resulted in the Lozier driver getting away with third honors at the finish line.

Honor weighed heavily on Robertson's hands when he attempted to lift the cup he had won, amid a shower of roses scattered by the hand of the mayor's wife. He bore the ordeal well, however, and graciously accepted the recognition for which he has waited patiently since the accident of two years ago, when he was prevented from participating in the elimination race prior to the Vanderbilt cup contest in which he was determined to compete.

Robertson's victory was clean cut and decisive. The Fairmount course was by no means velvety, despite its parkway character. There were numerous nasty turns and at these the crowds were packed in shoals, watching for sensations. Many of the wiser



FLORIDA, LOCOMOBILE, CLEARING SHARP TURN



WALLACE, P. & S., ON "S" CURVES

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ones even climbed trees to gain a better view.

Around the Falls of Schuylkill bridge, under which is the famous "dip," too narrow to permit the passage of two cars, the crowd was the thickest, and further along the line, on the "Hairpin" curve on Neil drive, another large crowd gathered. Between here and Belmont avenue the crowd was not so thick, but at Belmont dense throngs formed all along the drive to Parkside avenue.

Despite the huge attendance, little or no difficulty was experienced in handling the crowds. The arrangements for policing the course had been planned carefully in advance, and so far as could be learned, the drivers were at no time embarrassed by that press of humanity at the sides of the road which has hampered so many drivers in big events.

It was reported that prior to the race some of the drivers who had participated in the outlaw Brighton Beach 24 hours race of September 11 and 12, had refused to sign the certificates of absolution, thoughtful provision for which had been made by the American Automobile Association. Naturally drivers who were unwilling to take oath that in driving at Brighton Beach they had labored under a "misapprehension" in the matter of sanctions, would retain the technical disqualification which that act involved.

When interrogated as to the status of the Philadelphia race in this respect, Secretary Frederick H. Elliott, of the A. A. A., plead complete ignorance. Though refusing to be quoted he intimated that the Philadelphia club had not advised him of any such contingency, and indicated that were such the case, matters would certainly have to be straightened out before the running of the Vanderbilt cup contest two weeks hence.

Entries for the Vanderbilt Cup.

Announcement was made early this week of the complete list of entries for the Vanderbilt cup contest to be held on the 24th inst. Nineteen cars constitute the candidates for honors in the great classic and of this number, 12 are of American manufacture and 7 are foreign made. The drawing for starting positions took place yesterday (Wednesday) at the Garden City Hotel, with grand ceremony, under the direction of Fred J. Wagner. As a result the Locomobile car, the driver for which has not yet been nominated, will start first, followed by Basle's Knox, and Striker's Mercedes. The cars, drivers and order of start is as follows, the unlucky "13" being omitted:

No.	Entrant and Car.	Driver.
1	Locomobile Co., Locomobile.....	
2	Knox Automobile Co., Knox.....	Basle
3	Robert Graves, Mercedes	Stricker
4	Chadwick Auto Co., Chadwick....	Haupt
5	W. K. Vanderbilt, Mercedes....	Luttgen
6	Clifford V. Brokaw, Isotta	Lytle
7	James B. Ryall, Matheson	Ryall
8	E. R. Thomas Motor Co., Thomas..	
9	Hotchkiss Import Co., Hotchkiss..	Kilpatrick
10	H. P. Whitney, Brasier	Pouget
11	Acme Motor Car Co., Acme....	Patchke
12	E. R. Thomas Motor Co., Thomas..	Salzman
14	Thos. Williams, B. L. M.....	Williams
15	Matheson Motor Co., Matheson....	Chevrolet
16	Locomobile Co., Locomobile..	Robertson
17	Paul Lacroix, Renault	Strang
18	Foxhall Keene, Mercedes	Keene
19	E. R. Thomas Motor Co., Thomas..	G'll
20	Knox Automobile Co., Knox....	Bourque

Wm. K. Vanderbilt, Jr., expressed some reluctance about officiating as referee of the coming race, as he has entered a car. The other contestants overcame his scruples and unanimously voted him referee. The Mora car, which was entered some time ago will not be able to compete, as it will not be completed in season.

Old Buses for Traveling Show.

"What becomes of the old cars?" is a question frequently asked and not invariably answered to the complete satisfaction of the inquirer. But in France and England the problem of disposing of the old motor omnibuses cannot as readily be solved through the assistance of the rebuilder of second-hand material, as can that of disguising old cars. Nevertheless in a few instances new uses have been found for discarded vehicles which are as odd as some of the purposes to which old horsecars are sometimes devoted. Thus, in one case an enterprising showman has taken possession of a couple of old Parisian 'buses and converted them into a road train for his moving picture outfit. This, including tents, "bleachers" and stereopticon, is transported from place to place by the efforts of the two relics.

Shortest Route Determines Cabby's Fare.

Given the choice of a long and a short route, the driver of a taximeter cab cannot charge more for taking the long route, according to a London magistrate, who was called upon to decide a peculiar case involving this question. A woman called a cab to her house and the driver, apparently in order to swell his receipts, took a circuitous and mileage piling course. Upon the woman's refusal to pay the excessive taximeter charge, the driver applied for a summons for the amount, but was told by the court that if he chose to go the longest way he could not expect to be paid for it.

SUMMARY OF THE RACE SHOWING TIME BY LAPS.

Driver.	H.P.	Car.	1st Lap.	2d Lap.	3d lap.	4th lap.	5th lap.	6th lap.	7th lap.	8th lap.	9th lap.	10th lap.	11th lap.	12th lap.	13th lap.
Robertson .	40	Locomobile	9:52	19:36	9:07	38:37	48:04	57:31	1:06:55	1:16:26	1:25:48	1:35:14	1:44:33	1:54:12	2:03:40
Patchke ...*	50	Acme	10:19	20:26	0:32	40:43	51:56	1:01:32	1:11:32	1:30:26	1:32:26	1:41:37	1:51:39	2:01:36	2:11:38
Mulford ...	45	Lozier	14:14	24:04	33:29	55:44	62:48	1:01:37	1:11:05	1:20:32	1:31:04	1:39:36	1:49:13	1:58:51	2:08:32
Maucher ..	30	Peerless	9:57	24:24	34:23	44:31	55:51	1:05:14	1:15:20	1:26:11	1:36:37	1:47:14	1:57:41	2:08:02	2:18:17
Florida	40	Locomobile	9:59	19:37	29:11	38:45	48:20	57:51	1:07:25	1:17:04	1:26:37	1:36:14	1:45:52	1:55:31	2:05:13
Davis	55	Apperson	9:58	19:39	29:11	38:14	48:15	59:36	1:11:05	1:20:34	1:29:56	1:39:20	1:48:52	1:58:23	2:07:50
Bergdoll ...*	60	Amer. Loco.....	10:30	20:54	29:57	39:40	49:37	59:41	1:09:47	1:19:54	1:30:02	1:40:05	1:49:59	1:59:54	2:09:25
Wallace ...*	60	Palmer & Singer..	9:27	18:42	27:58	37:16	46:43	55:15	1:05:39	1:20:42	1:30:07	1:39:35	1:48:58	1:58:23	2:07:48
Yerger	40	Studebaker	12:40	22:45	33:02	43:32	54:23	1:04:27	1:14:50	1:25:29	1:35:38	1:46:03	1:56:12	2:06:19	2:16:29
Harkins ...*	50	Chadwick	11:33	23:23	33:16	43:18	53:53	1:11:40	1:29:28	1:39:50	1:49:55	2:00:46	2:29:02	2:38:58	
Zengle	50	Pennsylvania	10:18	20:10	30.07	40:07	51:06	1:02:46	1:12:54	1:28:58	1:48:09	1:59:18	2:10:25		
Salzman ...	60	Thomas	8:57	17:37	26:32	47:20	47:32	56:22							
Ireland	45	Stoddard-Dayton ..	10:29	20:45	31:00	41:21	53:21	1:43:14							
La Roche..	40	Pullman	10:44	24:34	37:32	47:20									
Bitner	28	Maxwell	11:31	22:42	33:46										
Michener ..*	50	Lozier	9:47												

Drivers.	H.P.	Car.	14th lap.	15th lap.	16th lap.	17th lap.	18th lap.	19th lap.	20th lap.	21st lap.	22d lap.	23d lap.	24th lap.	25th lap.
Robertson .	40	Locomobile	2:13:09	2:22:38	2:32:11	2:46:31	2:55:53	3:05:14	3:14:41	3:24:06	3:33:39	3:43:15	3:52:52	4:02:30
Patchke ...*	50	Acme	2:21:37	2:31:31	2:41:27	2:51:26	3:02:38	3:12:49	3:23:15	3:33:33	3:43:49	3:54:09	4:04:26	4:14:54
Mulford ...	45	Lozier	2:18:08	2:31:58	2:42:12	2:51:47	3:01:30	3:11:15	3:26:45	3:36:21	3:45:54	3:55:30	4:06:55	4:17:26
Maucher ..	30	Peerless	2:28:26	2:38:50	2:49:08	3:01:22	3:11:20	3:21:25	3:31:29	3:41:29	3:51:29	4:01:28	4:11:35	4:21:26
Florida	40	Locomobile	2:14:59	2:24:46	2:34:36	2:46:21	2:56:03	3:05:44	3:15:22	3:27:39	3:37:37	4:03:34	4:14:56	
Davis	55	Apperson	2:17:20	2:24:46	2:39:11	2:48:46	2:58:17	3:07:50	3:17:36	3:27:59				
Bergdoll ...*	60	Amer Loco.....	2:19:59	2:29:57	2:40:00	2:49:55	2:59:58	3:10:01	3:20:00					
Wallace ...*	60	Palmer & Singer..	2:26:32	2:36:10	2:45:33	2:54:51	3:04:15	3:13:41	3:27:59					
Yerger	40	Studebaker	2:57:23	3:09:30	3:19:49	3:30:02	3:45:14	3:55:43	4:14:18					

* Six cylinder motor. † Running whenrace was called off.

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FIVE PERFECT IN FOUR DAYS TEST

Only Four of Seventeen Drop Out of Chicago Reliability Runs—Rain and Mud Mutilate Scores.

Few endurance contests can begin to compare with the 1,000 miles, four days reliability run of the Chicago Motor Club held on October 6-9. It was almost as big an event for Chicago as the sweepstakes for New York, or the Fairmount races for Philadelphia. Seventeen contestants started out on the schedule which comprised an average run of 250 miles daily in the vicinity of Chicago, returning to that city each evening; and when the technical committee made its final report of the four days, only five of the starters were found to have perfect scores. Four had dropped out of the race at various stages and eight finished in the running with penalizations. The test was unusually strenuous and exacting. A perfect score meant that the cars had to be in absolutely perfect condition at the finish. As is usual with Chicago endurance contests, a loosened nut or bolt, a bent axle, or any other minor or major defection, caused a penalization. Two Haynes, a Premier, Franklin and Pierce-Arrow were fortunate enough to pass the eagle-eyed examiners at the final inspection. The following is the final score of the cars:

Perfect scores—Roadster Class.

Driver.	H.P.	Car.
Frank Nutt	36	Haynes
R. McNamara	32	Premier
C. S. Carris	28	Franklin

Perfect Scores—Touring Class.

L. Wagoner	36	Haynes
P. Hofman	60	Pierce Arrow Six

Penalizations—Roadster Class.

			Points
A. Kumpf	43	Pierce Arrow	1
McLain	30	Apperson	32
Dusenbury	20	Mason	216
Heaslet	45	Rainier	*
Nicholson	32	Midland	*
Halliday	21	Reliable Day.	*

Pen lizations—Touring Class.

Shafer	50	Marmon	2
F. Harn	20	Mason	2
W. Leitch	30	White	21
Muntwyler	20	Maxwell	51
Hal Sheridan	30	White	55
Smithson	27	Studebaker	*

* Withdrawn

In addition to the two general divisions, roadster and touring, the cars were sub-divided into price classes. F. Harn's Mason was first in the $1,000 to $1,999 class, with 2 points against it. McLain's Apperson won the $2,000 to $2,499 class, with a 32-point penalty; Frank Nutt, with the Haynes, and R. McNamara, in the Premier, both perfect scores, tied in the $2,500 up group; Muntwyler's Maxwell, with 51 points against it, led in the $1,999 and under; C. S. Carris's Franklin and Wagoner's Haynes tied with clean tallies for the $2,500 to $3,999 honors, while P. Hoffman, in his Pierce Arrow got away with the $5,000 up class.

The fuel consumption scores were calculated by a formula which took into consideration the weight of the car, the load and the total gasolene used on the four days of the run. The result was called pound mileage and embraced the number of pounds driven a mile by one ounce of gasolene.

The fuel consumption report was as follows:

No. and Car.	Weight.	Gals.	Pounds mil'ge.
9 Premier	3,585	69¼	224.1
15 Franklin	3,675	84¾	198.0
8 Haynes	3,675	84¾	198.0
20 Pierce Arrow	5,575	128½	187.5
16 Haynes	....	93⅞	184.5
19 Marmon	5.060	110	183.5
2 Maxwell	2.950	74⅜	171.3
4 Mason	2,735	69¾	170.0
7 Pierce Arrow	4,280	110	169.5
11 Rainier	3,865	106¾	156.7
14 White	4,630	145⅜	134.5
12 White	4,765	153	134.5
3 Mason	2,615	87⅜	119.0

Of the seventeen contesting starters thirteen were perfect when the caravan checked in at Chicago Tuesday night at the end of the first day. The only driver to suffer penalization on account of the storm was Barney Muntwyler, driving the Maxwell entry, who suffered from carburetter trouble which caused him to lose 24 points.

George Smithson's Studebaker was in trouble when Janesville was reached, with a crippled rear axle. Failing to return to Chicago on time that night, it was declared out of the contest. F. S. Dusenbery, piloting one of the Mason cars, found it necessary to break seals and fuss with an oiler on the road. W. Leitch in the White Steamer narrowly averted a tragedy with a railroad train at a Janesville crossing. The car barely cleared the track without being hit, the three passengers jumping for life.

C. L. Halliday's Reliable Dayton (the only buggy-type car inthe contest) fared well until the last part of the drive, lateness in reaching the night control causing it to lose a perfect score.

The second day's jaunt saw a couple more broken scores, the heavy roads making extremely hard going. Contestants set out at 4 a. m. in the pitchy darkness and watched the chill gray dawn break as they swung out through Aurora, Big Rock, Somonauk, Ottawa, Lowell, Oswego, and back after a hard push to Aurora, whence they returned to the starting line at Jackson Boulevard and Michigan Avenue, Chicago.

It was the bad highways around Semonauk, Ill., that despoiled the two scores mentioned. Hayes's Midland went flying into a patch of cinders and was wrecked, when a front wheel stuck in a rut and caused it to slew into a ditch. A front axle was broken, necessitating withdrawal. and G. P. Hall, the observer, was thrown out against a fence and sustained an injured knee cap. The Rainier that Heaslet was piloting suffered a broken frame and was withdrawn, though it was continued as a non-contestant, along with the Reliable-Dayton motor buggy. Dusenbury's Mason had two more points checked against it, for stalling the motor while in one of the controls, making a total penalization of 68 points.

When the technical committee made its report, at the close of the day, just a dozen of the 17 contestants still retained clean slates.

On the third day another car was dropped from the honor roll. The spin into the State of Indiana resulted in Nelson McLain, driving the Apperson entry, being penalized 22 points for breaking the seals on his hood to repair a fan-belt. The only other demerits which the technical committee imposed, were upon Dusenbury's Mason, which lost points earlier in the race. A couple of accidents varied the monotony of this day's run, although no one was injured. Paul Hoffman's Glidden Tour Pierce Arrow car "mixed it up" with a South Bend trolley car, while upon the return trip through South Chicago George Smithson's non-contesting Studebaker smashed a wheel and skidded badly.

Then came the wind-up day—the last 240 miles of the long contest, through a none too smooth route, touching Elgin, Rockford, Oregon, Rochelle and Aurora. When the last car checked in at the finish nine cars were reported with perfect scores, although these, of course, were subject later to minute examination by the technical committee.

Hal Sheridan, the crack White Steamer driver, was the unfortunate on this last leg. Before starting out in the morning he located trouble with the chain and oiler belt. In adjusting the difficulty, however, he was obliged to touch the seals, which cost him a penalization of 12 points, plus 14 for work on the road.

The tired technical committee wrangled for half the night in an effort to determine the winner of the Standard Oil Company trophy, offered for the car which was able to make the 1,000 miles on the least gasolene. Several likely winners of this philanthropic prize of the big-hearted corporation loomed up, but the mathematicians and experts adjourned this task until later. Their final conclusion resulted in the score quoted above.

Carries His Show on Motor Cars.

Lucky in having a circuit of theatres under his own exclusive management, all grouped on Long Island in towns within easy distance of each other, Al. Trahern, who is called the Long Island Frohman, has decided to use motor cars instead of the railway for transporting his troupe and scenery on their route of one-a-week shows. He has ordered a 32-passenger machine for the players and musicians, and a large freight truck for the baggage. The splendid condition of the Long Island roads makes the entire success of the plan more than probable.

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OLDFIELD AND CHRISTIE PERFORM

With Soules as Buffer They Share Honors at Cleveland's Two Days Meet—Kelsey's Entry is "Copped."

That trio of so-called "dare-devils," which has been delighting the visitors at Western county fairs and other small race meets for the last few weeks, entertained a goodly crowd at Cleveland, Ohio, during the Cleveland Automobile Club's two days' meet at the Glenville track, on Friday and Saturday, October 9-10. The "trio"—that is to say, Barney Oldfield, Walter Christie and Charles Soules, who seem to have the win-as-they-please habit—also exhibited as a fellow attraction R. G. Kelsey, of New York City, a driver who is better known in the East than on the Western tracks. Kelsey's efforts were curtailed, however. For some small question as to the rightful ownership of the car he was driving, which was claimed by a Chicago automobile company, proved his undoing. After some dispute over his title to the machine, he was placed under arrest on the broad charge of having stolen it, and his name was erased from the program.

Oldfield and Christie shared such "honors" as were to be had. On Friday the latter traveled a mile in 0:55½, which is nine-tenths of a second slower time than Oldfield once made on this self-same track. That hero himself shot around in his six-cylinder Stearns in 0:57 7-10, while Charles Soules, in the smaller Stearns, was one and one-tenth seconds behind that mark. The smaller Christie machine did not get under the minute mark, and its best time was chalked up as 1:04 2-10. This car was not working right at any time during theday, as is frequently its wont.

Oldfield also made the best time in the semi-final heat of the sweepstakes, when, going against Christie, he made the three miles in 3 minutes flat.

Paxon in a Jackson came in first in the $3,500 and under class for stock cars, doing the two miles in 2:31, but because this car was stripped of its fenders it was disqualified and the race given to Hissong, who drove a Winton in 3:58 4-5. The entry blanks allowed machines to be stripped in this manner, but as none of the rest had done so it was decided not to count the time made by the Jackson.. This novel way of making decisions did not make the Paxon-Jackson outfit a warm champion of the judges. Paxson also captured the novelty race and repeated in the two-mile special event for touring cars and runabouts, making the course in 2:41 9-10.

In the novelty affair, in which the drivers of novelty touring cars picked up and discharged a load of passengers every other mile for five miles, some of the machines did not slow up, and many of the passengers were rolled in the dust of the track in front of the grand stand, to the intense delight of the spectators.

Saturday, the second day of the meet, saw the clay surface of the track in very slippery condition, due to rain, and the fast drivers did not care to take any chances. When it came to the final of the sweepstakes event, however, Walter Christie shot under the wire ahead of Oldfield, his time for the pair of miles being 2:12. In an exhibition against time he also distinguished himself by making a mile in 0:59 4-5, which by no means equalled his previous day's mark.

Fireworks served to enliven the three-mile race for the $3,500 class. Paxon's mount caught fire and Frank Arams's Mora followed suit, but the flames were extinguished before either of the cars was badly damaged. U. Osgood, driving a Stoddard Dayton, won in 3:32 1-5, with the Arams's Mora second.

The three-mile free-for-all handicap again furnished excitement for the spectators. Charles Soules's four-cylinder Stearns was the scratch car, the Stoddard-Dayton and Mora were given twenty seconds handicap and two Oldsmobiles and a Royal were given considerable more, and in consequence Soules had some difficulty in winning the event. This he did, however, in 3:18 4-5. Frank Adams got away with a two-mile event for 1909 models, showing the field his dust in 2:34 1-5.

Detroit Plans Triple Endurance Contest.

What is billed as the "second great endurance run" of the Detroit Automobile Dealers Association is to take place on November 5, 6 and 7. Three separate runs will be made on each of those dates, the contestants starting early in the morning from Detroit and returning at night. The first day's trip will be to Saginaw and return; the second to Adrian and Jackson and return; and the third to Lansing and back. The schedule will be far more severe than in the last contest held there, and it has been decided to divide the cars into three classes, the smaller ones to start earlier and run on a slower schedule. At the finish, a technical committee will make a special examination of each machine, deducting points for deteriorated and broken parts of the mechanism.

Desert Course for a Road Race.

An Arizona newspaper has offered a silver cup as an inducement to motorists in that section to compete in a 450 miles road race from Los Angeles, Cal., to Phoenix, Ariz., which is being agitated by the Maricopa Automobile Club. It will take place between November 1 and 16, to reach Phoenix during the Territorial fair. Following the road race, there will be a track meet at the latter city. Much of the proposed course is through sand in the desert, which is calculated to test severely the running quality of the cars.

VIRGINIANS TAKE TO MOTOR RACES

Six Contests Make Exciting Close for Their State Fair—Ray's Plucky Fight Against Persistent Misfortune.

After the judges of the Virginia State Fair at Richmond had awarded the various prizes for agriculture, horticulture and health culture on Saturday afternoon, 10th inst., they went out to judge a series of six automobile and motorcycle races, five of which were at 10 miles' distance. After a motorcycle curtain-raiser, a 10-mile race for runabouts of 24-horsepower or under was held. Everts, driving a Buick, soon overhauled the field and won the event in 16:55½, with C. G. Montgomery in a Franklin and W. M. Batten in a Ford trailing for second and third places.

L. H. DeGraaf scored with a six-cylinder Ford in the event for cars between 24 and 40 horsepower. The only other entry was a Buick, which was outclassed. In the succeeding race for stock cars costing $2,500 and under, a Chalmers-Detroit, driven by E. J. Ray, led the field from start to finish, twice lapping B. A. Blenner's White Steamer and hauling rapidly away from the Foster Buick. Ray's time at the tape was 15:16, with the Buick second.

The scheduled feature of the meet was a 50-mile affair for chassis of 60-horsepower and under. E. J. Ray was mounted on a Stevens-Duryea "six," which broke down twice and was repaired each time. The Foster Motor Car Company's Buick and Dr. L. T. Price's car of the same make had a duel of their own most of the way. In consequence the former secured the lead and was holding it well when Ray, who had repaired his first breakdown, came along, overhauled the leaders one by one, and was in a fair way to win, when he broke down once more. The second accident ruined his chances for the cup, but Ray stayed in the race and swept around the track at a fast clip. The Maxwell touring car covered only about thirty miles of the race. The two Buick drivers finished first and second, the time being 1:11:44.

Lowell Holds "Pony" Automobile Races.

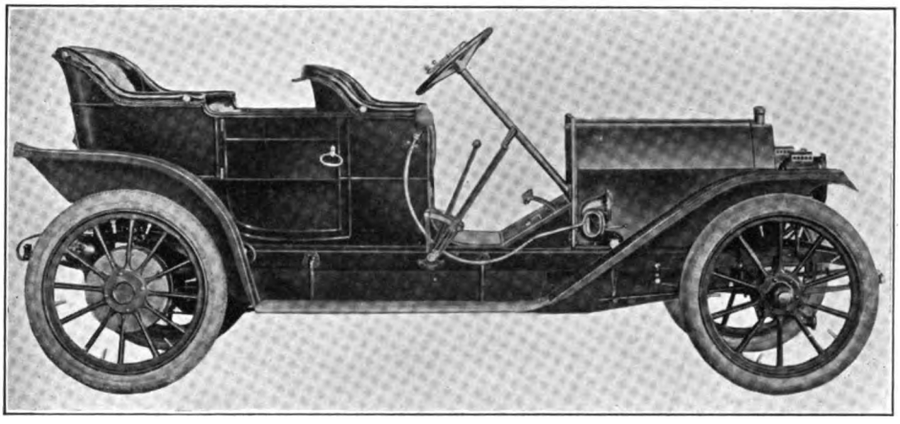
Since its famous Labor Day road race, Lowell, Mass., has been having a series of "pony" automobile races with boy competitors, in which the machines bear at least external similarities to the big racing cars and are designated by fanciful parodies in names. Among the entrants, the "L. I. A. R.," the "Iswotta," the "Knocks," the "Packhard," etc., are conspicuous, and as older citizens have in nearly each case put up substantial cash prizes, the competition has been very keen. At the most recent event, there were 17 starters, 11 finishers, and a crowd of over 1,000 spectators. Several of the machines overturned.

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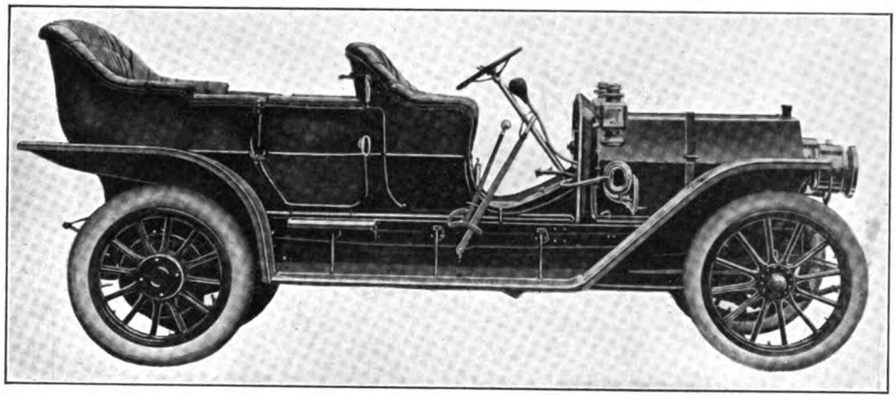
MARMON UNVEILS NEW MODELS

Distinguishing Features of the 1909 Designs —Originality Shown in Important Details of Construction.

Two entirely new models to be known respectively as the "Thirty-two" and "Fifty," are to comprise the principal features of the 1909 offering of the Nordyke & Marmon Co., Indianapolis, Ind., in addition to which there is to be a "45" roadster, differing from the larger of the two touring cars in the matter of engine dimensions and so of power. This announcement made last week, was emphasized by the simultaneous appearance of the two cars at the New York show of the National Carriage Dealers' Protective Association, where they were displayed for the first time, as told in the Motor World. While similar in many respects, they yet reveal sundry distinguishments which entitle them to entirely separate consideration. These differences extend not only to matters of dimension, but also to such elements of design as the transmission mechanism, the suspension and the general external arrangement of the vehicles.



MARMON "THIRTY-TWO"



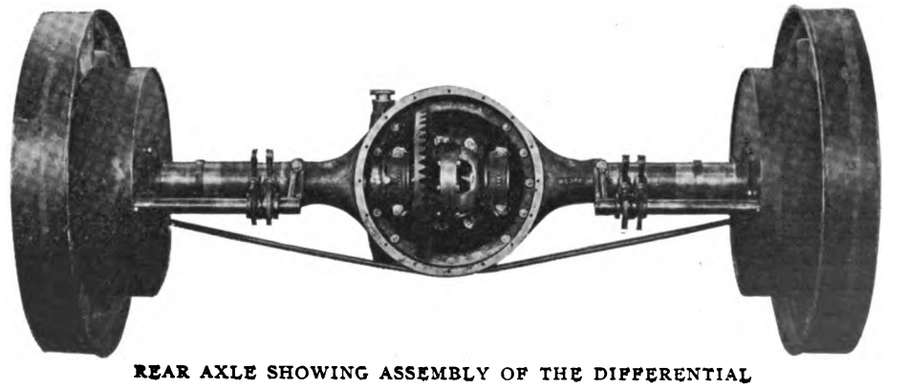
MARMON "FIFTY"

Thus Model "Thirty-two" is a low-hung, racy car with low-backed seats and somewhat the aspect of the popular roadster type, while its larger sister car is of generally heavier and more luxurious construction. The former, which mounts the new motor, recently described in these columns, has a transmission of the so-called "unit type," that is to say, mounted integrally with the rear axle and differential housing. The Model "Fifty," on the other hand, has the unit power plant which was employed on the models introduced for 1908 consumption, a straight line propeller shaft, and floating axle construction, which is at once unique and interesting to examine.

Contrasting the specifications of the two types for the sake of comparison, Model "Thirty-Two" has these features: Motor dimensions, 4½ inches bore by 4¼ inches stroke, rated output 32-40 horsepower; transmission, expanding ring master clutch, three-speed axle-mounted gearset, and floating axle; brakes, double expanding, placed side by side and equalized; wheel base, 112 inches; wheels 34 inches diameter; tires, 3½ inches; spring, full elliptical behind, 40 by 2 inches; front, semi-elliptical, 30 by 2 inches. Model "Fifty" is distinguished by a 5⅜ by 5-inch motor, multiple disc clutch, three-speed gearset, unit suspension of the power plant, floating axle drive, double expanding brakes, wheel base 118 inches, wheels, 36 inches in diameter, shod with 4 and 5-inch tires, front and rear. In both types, the frame is of pressed steel, the front axles, of I-beam section, the load being carried by ball thrust bearings, and the wheels carried on conical roller bearings.

As will be observed, a prominent distinguishing feature between the two types is the arrangement of the transmission mechanism. This is clearly brought out by the accompanying illustrations which show the rear axle construction in each case, as well as the brake mounting of the smaller car. This is the same in principle on both machines, the brakes being placed side by side in wide faced drums of unusually large diameter, heavily made and securely mounted on the wheels. The shoes are expanded through linkage balanced by means of equalizing beams, and are actuated by the usual pedal and lever movements.

From the illustration of the Model "Thirty-two" brake assembly, the novel method of adjustment will be observed. Instead of being permanently attached to the rocker arms which apply the shoes, the drag links are bolted to short arms which are loosely mounted on the rocker shafts, and carrying short worms having squared ends for the attachment of an adjusting key as required. The rocker shafts carry small worm segments into which the worms mesh, thus fixing the two together, but permitting a ready means of adjustment at any time. The alteration of the brake tension thus may be made without loosening any nuts or bolts, and by the instant use of a suitable key or socket wrench.



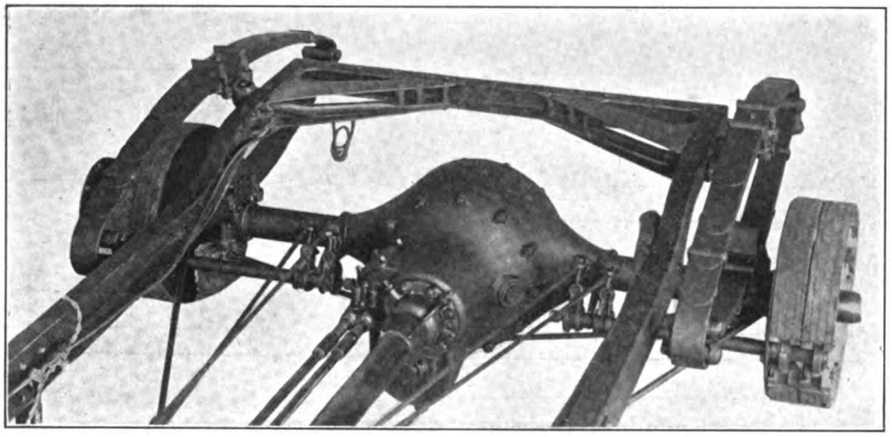
REAR AXLE SHOWING ASSEMBLY OF THE DIFFERENTIAL

The mounting of the rear end of the chas-

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sis of this model also is noteworthy, not alone because of the substantial manner in which the springs are hung, but also because of the use of diagonal braces of trussed section employed in strengthening the rear corners of the frame. The illustration shows the complete chassis at this section, also revealing the manner in which the change gear group is incorporated into the axle construction. This general principle has been used before, but the design in question is original with this vehicle.

An orginal and distinctly novel feature of this assemblage is the method of mounting the wheels. These are carried by one large annular bearing, placed nearly under the load center, while the driving stubs are flanged at the outer end and bolted directly to the hub. This gives the essential action of the more familiar hub cap drive, but lacks its uncertainty in the event of a disordered hub, since it is practically impossible for the wheel to come off without giving ample warning. This arrangement also



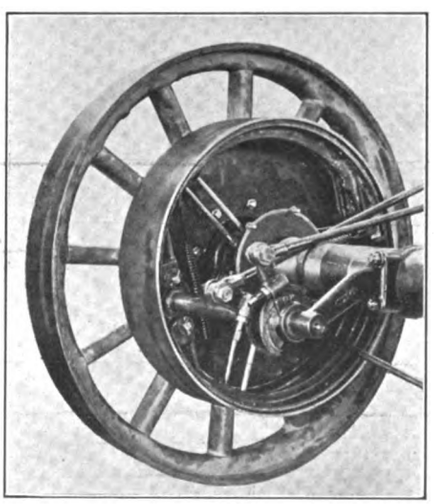
MARMON "THIRTY-TWO" SUSPENSION AND TRANSMISSION

The mechanism is selective in principle, the lay shaft lying below the main driving elements. The arrangement is so contrived that the entire aggregation may be removed from the housing without dismounting anything further than the cover plates at the top and rear end, while the spherical form employed is calculated to give strength with a minimum use of metal. Surprising though it may seem, this construction adds less than 20 pounds to the weight of the complete axle—which serves as an effective answer to one of the arguments commonly advanced against this system.

In the larger car, the multiple disc clutch has 9 steel plates and 10 of bronze, with cork inserts, the whole being enclosed in a casing positively atached to the fly wheel. The gearset is mounted entirely on annular ball bearings, as is that of the smaller machine, and is so contrived that no gears are in action while the direct drive is engaged.

The massive construction of the rear axle equipment of this machine is shown in the illustration, which also shows the method of actuating the brakes. These are of 2-inch face and 17 inches diameter, as against 2-inch face and 14 inches diameter on the other car. They are actuated by means of expanding cams, worked by direct linkage, and are held out of action by heavy springs, which draw them against adjustable stops. The differential and bevel driving group is so constructed that it can be removed from the rear of the casing when the cover plate has been taken down, so that access to any of the parts may be had with but small expenditure of time and labor.

permits an unusual wheel design, since the axle attachment affords a very large hub, without overhang and presenting a practically flat surface on the outer and exposed side. The greater part of the load is carried by the single bearing, as stated. The steadying effect necessary to preserve align-



EMERGENCY BRAKE CONSTRUCTION

ment, is supplied by the outboard differential bearing in each case, the long leverage of the driving stub itself, serving to reduce the pressure to a relatively small and easily compensated amount at the center of the axle.

With the exception of these features, the design of both models is much in line with the ordinary practice of the day. Both have a road clearance of 10 inches, but are designed to give a low-hung effect which is deceptive in that respect as well as convenient. In the "Fifty" car, the cast metal body, which has been a Marmon feature in past seasons, is continued. The smaller car, however, is equipped with a sheet metal body.

Keeping Enclosed Brakes Clear of Grit.

Although the modern types of internal expanding rear wheel brake are so contrived that they are well protected from dust and dirt, it by no means follows that they do not require cleaning or that they are not apt to suffer from the effects of continued service under ordinary road conditions. The very fact that the brakes are enclosed makes it practically impossible for any dirt which may work into the drums to work out again under its own impetus. The result is that after a time a certain amount of finely pulverized grit will be found in the casing where it acts as a powerful and destructive abrasive. On this account the cover plates of all brake housings should be removed occasionally and the interiors thoroughly flushed out with gasolene.

Testing the Movement of the Wheels.

When inspecting the mechanism of the car it is well to jack up each of the rear wheels in turn in order to observe whether they revolve freely. When there is an appreciable amount of resistance to motion the fault may lie with the dragging of the brakes, with the differential mechanism or with the rear portion of the transmission. In either case the cause of the difficulty may be traced out readily. If the resistance is noticeable on one side only, the remedy is usually obvious and may be applied at once. Otherwise it may be more difficult to sift it out, though none the less important.

Closing Leaky Gaskets in Couplings.

Leaking gaskets in flanged couplings of the exhaust piping may sometimes be closed by merely calking the asbestos filler with a thin, flat chisel or screw driver. More often, however, it is necessary to break the joint and replace the gasket with a new one. In doing this, care must be observed in order to draw up both flanges uniformly. Otherwise, the unequal pressure on the two sides will be a stimulus to further leakage. Obviously the proper joint can be made only when the two sections of piping are perfectly in line.

To Avoid Danger in Cranking.

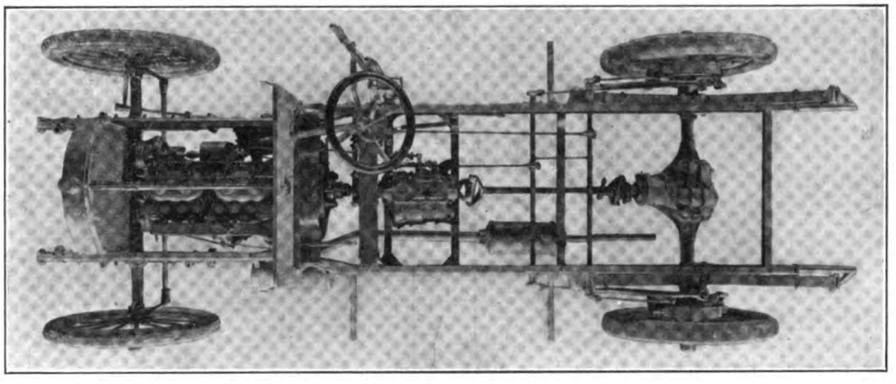
Because of the danger when cranking, it is important that the connections between the timer and the hand lever be examined occasionally to see that there is no danger of the former getting adrift. In case this should occur the spark remaining advanced despite the location of the lever in the retard position would be apt to cause serious trouble.

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COLUMBIA IN TWO NEW MODELS

Mark "XLVIII-3" a Modification of Earlier Light Touring Car—Mark "LXX" an Electric Vehicle.

During the tenure in office of Messrs. Halsey M. Barrett and Henry W. Nuckols, receivers of the Electric Vehicle Co., Hartford, Conn., but little has been heard of manufacturing activities at the big plant which for so long has been identified with the name Columbia as applied to motor vehicles. Nevertheless, considerable has been accomplished in the way of clearing up the models which were already under way, and latterly in the production of a couple of new types, one of gasolene and the other of electric propulsion. Of these, the former is to be known as Mark "XLVIII-3", and is to follow in general the design of the former light touring model which thus is carried over practically into its fourth year. The electric vehicle now being produced is known as "Mark LXX," and is of the popular Victoria-Phaeton pattern. In both instances, work has progressed to a point where the machines are in readiness to be placed upon the market, and are in the actual stages of production.



COLUMBIA MARK "XLVIII-3" CHASSIS

As indicated, "Mark XLVIII-3" already is familiar in its general aspects. As illustrated, it embodies these specifications: Motor, 4¼ by 4½ inches, bore and stroke; transmission by leather-faced cone clutch, selective sliding gearset, affording direct drive on high, propeller shaft and live rear axle; wheels and tires, 34 by 3½ and 34 by 4 inches; wheel base, 115 inches; tread, 56 inches.

The motor has cylinders formed in paired castings with the valves all on one side. An unusual feature of its construction is the use of non-interchangeable valves, the inlets being of 2¼ inches, and the exhausts 1 13-16 inches diameter. The power rating in accordance with the usual formula is 29 horsepower, or a trifle under. The construction of the crankcase, which is here illustrated, has been modified in the latest patterns to permit the adoption of a support for the valve and megneto shafts outside the gears. This is accomplished by the use of annular ball bearings mounted in the forward section of the case—as shown in the illustration. The gears are now of the spiral type with faces of increased width, making for longer life, reduced wear and more silent operation.

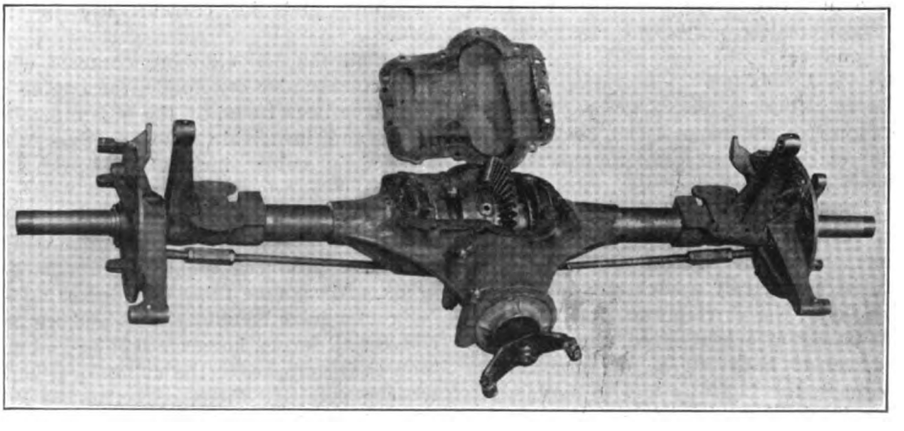


COLUMBIA MARK "XLVIII-3"

Ignition is of the low tension, make and break type, the Bosch instrument now being employed to generate the current. The igniter plates are of drop forged steel, ground to size.

In the actuation of the three-speed gearset, is to be found the unique system which, in principle has been employed on this model from the first. The gear striking lever, instead of picking up the striking rods by direct connection within the gear box, is made to engage one or the other of two short rocker arms which are mounted on the extremities of a couple of telescoping actuating shafts. These arms have a squared jaw connection with the lever, and being placed on opposite sides of the lever can be engaged only one at a time. The chief advantage of the selective system is thus preserved, and it is impossible to slip over from one gearset into the other accidentally.

The propeller shaft, as shown in the accompanying illustration of the chassis, is equipped with universal joints of the yoke type, as is the driving shaft between the master clutch and gear box. The floating rear axle construction has been altered this year by the moving outward of the strut rods on the casing in such a way as to allow a greater amount of clearance. Another feature which is an innovation at this time is the standardization of the frame lengths and wheel bases for all models,

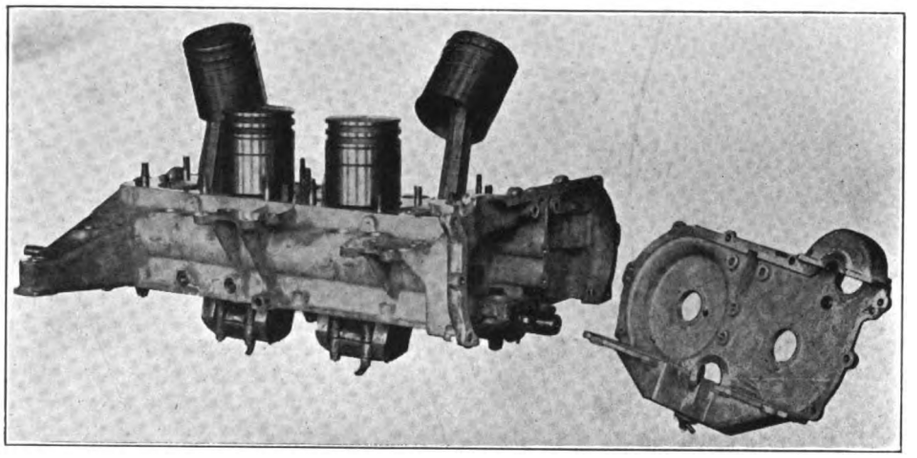


COLUMBIA MARK "XLVIII-3" REAR AXLE

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whether of the touring, limousine or landaulette types. The standard equipment is that shown, but the two types of closed body also are produced, the interchangeable feature eliminating all differences except those of the tire sizes. These for the closed cars are the same, except in the rear, where 34 by 4½-inch tires are employed instead of 34 by 4-inch.

The electric vehicle which is now being produced, in a general way preserves the original design of the victoria-phaeton which was first offered to the public in 1905, and has since been continued with only such minor changes as have been required to bring it up to time. In the new lot but three significant alterations have been made over the previous series. The



CRANKCASE WITH CRANKSHAFT AND PISTON ASSEMBLY

most striking of these is the installation of annular ball bearings on all of the wheels. In addition to the regular hub brake, an emergency brake has been added, which is applied to a drum on the countershaft of the motor transmission. The third important change is in the increase of the battery capacity by the addition of two more cells to the regular equipment. The complete battery is thus composed of 32 cells, divided into two groups so disposed as to apportion the weight equally between the front and rear wheels. They are of the Exide "9 PV" type. The rating for the radius of action is placed at the conservative figure of 40 miles. The controller is simple in design and easy to operate. It provides four forward speeds, affording approximately 4, 7½, 12½ and 16 miles per hour, respectively, and two speeds in the reverse. On the second reverse speed, which is obtained by a backward movement of the lever, the carriage develops its maximum power at a low speed, thus enabling the driver to back out of any unusual depression in the highway and to avoid difficulties in turning around in narrow quarters with steep gutters on each side. The wheel base of the vehicle is 70 inches, the tread 48 inches, and the wheels are 30 inches in diameter, shod with 3½-inch pneumatic tires, front and rear.

REFORMATION IN POWER RATING

Purdy Suggests Adoption of "Circular" and "Cylindrical Inches"—Typical Equations to Illustrate the Idea.

New possibilities are injected into the much-vexed question of the proper method of power rating for automobile motors by the suggested adoption of the units of "circular" and "cylindrical inches" in place of the complete values of square and cubic inches as at present used. The signification thus brought about would be merely in the mathematical sense, as the figures could be converted into the more familiar square and cubic measure by simple multiplication. At the same time, the method would permit of a close comparison of motor sizes as well as of powers, according to the complete plan, on a basis of simple figures. The originator of the idea is Frederick Purdy, engineer in charge of the testing laboratories of Thomas B. Jeffery & Co., who has developed it upon the analogy of the "circular mil" system employed in electrical calculations and in current use in that field.

"In all the hill climbing contests which have come under my notice, the engine ratings have been based on the piston displacement, and invariably the volume is expressed in cubic inches," remarks Mr. Purdy.

"This is one of the mathematical absurdities that have descended through generations and have produced mental habits hard to break. Always we think of volumes as having rectangular boundary lines and we must convert all forms, however regular and common they may be, to the cubic form before we can compare them. So also we think of surfaces and sections as squares, hence our units of area are always square and we go on converting the value of circles and cylinders and spheres into terms of squares and cubes, for each equation, requiring the use of a long decimal multiplier or divider, wearing out gray matter, better devoted to more useful service.

"When we get away from this worship of the rectangular god, we are free to set up a new and convenient rule for comparing volumes and areas. Or, in other words, when volumes or areas of like form are to be compared with each other, the unit of measurement should be of the same form.

"The electrical people have adopted the "circular mil" as the unit of sectional area for wire and other conductors, which is much more convenient that a square mil for it requires only that the diameter in .001 inch be multiplied by itself to give the sectional area, and the diameter in .001 inch of a wire of any desired area expressed in circular mils, is the square root of the area.

"Thus, D^2 = area is a much shorter equation that 0.7854 D^2 = area, or 3.1416 R^2 = area, and for purposes of comparison a much better one.

"Why should not the engine builders and users adopt the cylindrical inch as the unit of piston displacement and cylinder capacity? Then the equation for displacement would be $D^2 L$ = volume: the proportion would remain the same as if reduced to cubic inches.

"Thus the displacement of a cylinder 4 inches in diameter with 6-inch stroke = 96 cylindrical inches or 75.3984 cubic inches. Or, the displacement of a 6-inch cylinder with 5-inch stroke = 144 cylindrical inches or 115.0976 cubic inches.

"Since 96 : 144 :: 75.3984 : 113.0976, it is just the same.

"It is as easy to convert the volume of irregular cavities such as the compression space into cylindrical units as cubic units, the ration between them being of course 1 to 0.7854. The sectional area and volume of intake and exhaust pipes, the area of any circular opening such as valve ports could best be expressed in circular and cylindrical inches. . . . .

"There should also be a standard of speed at which an engine is rated or rather there should be two points at which a variable speed engine such as used in an automobile should be rated.

"Various compressions and valve timing may give an engine a high power at high speeds at the sacrifice of power at low speed and vice versa, so it is hardly fair to compare two engines of the same bore and stroke at only one speed. Hence a rating should be given at a point between 400 and 600 r. p. m. (the normal running speed) and between 1,200 and 1,600 r. p. m. (the point of greatest output).

"The power curve in most engines rated at from 30 to 50 horsepower is a rising one up to from 1,200 to 1,600 r. p. m. At some point in this range, the inertia and other losses which are rapidly rising, compensate any increased power due to speed, the curve flattens out and shortly begins to drop. Why not establish these extreme points in some engineers' convention as a standard of speed for power rating?"

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GABRIEL WITH ADAPTABLE TONES

The 1909 Model to Emit Soft Musical Sound in Cities—More Penetrating Note for the Rural Roads.

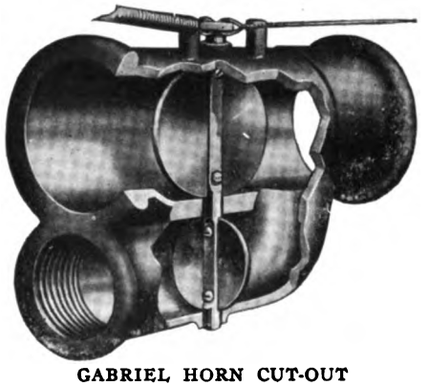
By the equipment of an ingenious device, the new Gabriel horn which has been produced for the season of 1909, may be confined to one soft musical tone for urban use or the three notes may be raised in unison as a penetrating herald on rural highways. As shown in the illustration, the 1909 Gabriel is of the single tube, three note type, resembling the 1908 model in exterior appearance. It will be supplied by the Ga-



NEW MODEL GABRIEL HORN

briel Horn Mfg. Co., of Cleveland, O., in four sizes, as different sizes are required for various motors according to their power. The gradations in size are calculated with a view to providing in each instance the proper capacity for disposing of the exhaust without causing back pressrue.

Back pressure is also provided against in the 1909 cut-out valve which is supplied for the control of the Gabriel. The picture shows that the valve disc in the main exhaust channel is at right angles to that in the channel which directs the exhaust gases to the horn. When the controlling lever on the top of the valve is turned to sound the horn, the disc in the auxiliary channel opens at the same rate that the main channel disc closes, as the two are mounted on the same



GABRIEL HORN CUT-OUT

spindle, the result being that there is no piling up of back pressure. The construction also provides for a cut-out which affords a direct opening to the air that is 1¼ inches across and is supplementary to the regular outlet through the muffler. When the cut-out is being employed, the exhaust has both the muffler and the direct opening through which to escape, giving a maximum of free discharge. In addition to considerations of correct theory and mechanical efficiency, the Gabriel valve is of a detail design which makes provision against the possibility of leakage when the valve is closed and precludes the rattle, whistling and noise which are the conspicuous fault of poorly constructed devices intended for the control and direction of the exhaust. Suitable valves to fit all standard sizes of iron pipe or steel tubing, ranging from 1 inch to 2½ inches outside diameter are available.

The most recent addition to the Gabriel family has been the Gabriel shock absorber, which is subject to several refinements and changes over past models for the 1909 season. In the new model, as is indicated by the illustration, there is no change in principle. To the body of the car is attached a friction pad which moves vertically between the spring side plates of the member attached to the axle. The two sides converge at their ends, so that the friction pad has a comparatively free movement while it is at the middle, but is increasingly compressed and restrained in its movement as it is forced toward either end. Thus an extreme upward or downward movement of the axle in relation to the body of the car is resisted and a normal relation soon re-



GABRIEL SHOCK ABSORBER

established. The 1909 model has a new method of fastening the friction pad to the body of the car, in order to provide for end motion. The fastening stud has a movable bearing to replace the former rigid connection. An increased bearing surface for attaching the channel member to the axle is also a feature. In this way all the various motions which the axle and the body suffer in relation to each other are provided for, and noise and rattle in the absorber are prevented. A new friction material is used for the sliding friction pad, whereby the effectiveness and durability of the absorber are greatly increased. Tests by the manufacturer are said to have demonstrated that the new material will permit a friction pad to be operated for from twelve to fifteen thousand miles riding without replacement, after which new friction surface may be put in at slight expense. Attachments and proper resistance plates are made for every size and weight of car.

"The A B C of Electricity." Price, 50c. The Motor World Publishing Co., 154 Nassau Street, New York City.

VARIETY IN SPEED INDICATORS

Two New Stewart Speedometers for the Season of 1909—Noteworthy Improvements in Older Models.

Little complaint can now be offered by either the dealer or the owner as to limitations on the variety of speed indicating devices that are offered for choice, as the number of models presented and the great range of prices that are to prevail for the coming season afford a market that admits of wide selection. Most of the established



STEWART, MODELS "12" AND "13"

makers have brought out additions to their lines for 1909, together with variations in previous models. In accordance with this policy, the Stewart & Clark Mfg. Co., of Chicago, Ill., have added two new models of the Stewart speedometer, which are designated as models No. 11 and No. 12, and which are to sell at $25 and $15, respectively.

By mounting the indicator hand in the center of the dial, it has been made possible in the No. 11 model to use a scale about three times as long as that ordinarily employed on instruments of this kind, the graduations, as will be seen in the illustration, extending about three-quarters around the face, which is 4 inches across

In the No. 12 model, which sells at $15, the mechanism is similar to the $25 model of the past season. The dial is 3 inches in diameter and in addition to the speed indicating hand, the face bears a 10,000 mile,



STEWART SPEEDOMETER, MODEL "11"

season odometer. The speed scale gives a maximum of 50 miles per hour.

For high speed work the model No. 5 is offered, with a scale reading to 90 miles per hour maximum. The instrument which this model supplants listed at $75, but the new model retails at $50, and is equipped with a maximum speed hand. For those who are satisfied with a lower maximum on the speed scale, the No. 4, at $40, is suitable, being a duplicate of the No. 5 in all its features except the 90 mile reading.

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NEW PROBLEMS IN ROAD BUILDING

Commissioner Shanks Sees Changed Conditions—They Must be Met, He Tells Indiana Commissioners.

Taking the position that automobiles promise to be as much a part of the settled order of things as the highways themselves and that it is theferore useless to berate them for raising dust on ordinary roads, John G. Shanks, of Washington, Ind., told the county commissioners of Indiana that they must get over the idea that they "are living in the day of the saddle and the pack horse" and should build their roads to meet modern conditions. As Shanks is a county commissioner himself, representing Davies county, and knows considerable about highway construction, his speech at the convention which was held in Indianapolis, Ind., is calculated to have effect.

"There was a time," he declared, "when the wear and tear on the roads was not very great. But the time has come when any road built of anything but the best and most durable material, is going to show signs of wear in a very short time. This is true because of the increased use of automobiles and other similar vehicles, all of which ruin an ordinary road. It is a question of eliminating either automobiles or our present system of building roads.

"It has been shown time and again," he said, "that the ordinary road is not able to stand modern traffic. It becomes one of our greatest engineering studies to decide upon materials that will stand the strain. Before entering into a contract for the construction of public highways, it is up to every commisioner to consider the nature of the traffic in the particular vicinity and to select the roadbed material accordingly, having in mind the motor vehicle trafic, especially."

St. Paul Plans Thorough Road Marking.

Upon coming within a radius of 100 miles of St. Paul, Minn., it will be an easy thing for the motorist to find his way about, if the sign post plans of the St. Paul owners are carried out on the scale that has been projected. Not only the members of the St. Paul club, but non-members as well, are contributing to the fund. While strangers will be welcome to all the benefits of the thorough posting of the corners and byways, it is the St. Paul and Minneapolis contingents that will reap the most advantage, as drivers from those cities frequently get lost among the interlacings of the many roads leading to the various lakes and resorts, due to lack of proper finger posts.

Opening Paradise Valley to Motorists.

To make Paradise Valley and the beautiful Mount Rainier region in the State of Washington more accessible to motorists and tourists, an active effort is being made by commercial clubs, chambers of commerce and good roads associations thereabouts to have good roads in the district. An appropriation of $50,000 is to be asked from the Federal government, which amount when added to the sums raised locally, will permit the completion of several highways as yet unfinished, and the projection of new ones that will exploit the scenes of the mountains.

Chicago Begins an Anti-Smoke Crusade.

Following New York's lead, Chicago has decreed against smoking motor cars on the boulevards and in the parks. In fact, the Windy City is even more particular about the cars that may use its pleasure vehicle highways than is Manhattan, because no car that is not properly washed and groomed can pass the warning policemen who "shoo" away the undesirables. On a recent afternoon 100 park policemen were put at the park and boulevard entrances to enforce the new regulation, and over 800 cars were turned away, either because they were unwashed and dirty, because they dripped oil, or because they emitted offensive exhaust. "The automobile immaculate" is the standard that is being insisted upon by the authorities controlling Chicago's parks and boulevards.

Motor Cars Curing Equine Nervousness.

That motor cars have reduced horse runaway accidents on the city streets is the conclusion reached by several acute observers of metropolitan and urban phenomena. This reduction is not brought about by the supplanting of the horse, but as a result of the reduction of equine nervousness that has been brought about by getting accustomed to automobile traffic. After learning to regard calmly the swift passage of roaring, snorting, fire spitting, gear clatterng machines of all types, no trivial adventures are sufficient to make an experienced horse unruly.

Bucks County Motorists Organize a Club.

To fight speed persecution and to get good roads, the Bucks County Automobile County Automobile Club organized at the home of the Bucks County Country Club, Langhorne, Pa. The presidency was given to Dr. Harry Lovett, of Langhorne, while Ellwood Watson was chosen secretary and treasurer.

Raleigh Automobile Club Organizes.

Raleigh, N. C., is the home of the newly formed Raleigh Automobile Club. The officers elected at its first meeting are: R. D. Godwin, president; James L. Thomas, Jr., vice-president; John A. Park, secretary; and L. A. Mahler, treasurer.

Boys Form an Automobile Association.

High school boys in Alameda county, Cal., have formed the Amateur Automobile Association. Edward Chamberlain and George Ogden, of Berkeley, Cal., have been chosen president and secretary.

PREDICTS GREAT MOTOR HIGHWAYS

Capitalists Projecting Two Pioneer Interstate Roads, Says Hassam—New York to Boston Scheme Reviving.

Motor highways connecting Chicago Pittsburg, New York and Boston are not at all unlikely in the near future, because of the rapidity and economy with which special automobile roads can be built, according to Captain Walter E. Hassam, of Worcester, Mass. Capitalists are evincing a great interest in such projects, he says, and two pioneer roads are already projected. A group of Boston men, he declares, are considering reviving the scheme for a road between New York and Boston, while a Chicago to Pittsburg motor road is being actively projected in the Windy City.

As a result of his work in constructing the Motor Parkway on Long Island, Hassam comes into contact with nearly everybody that is nursing an enterprise of this kind, and because of the vigor with which the question is being taken up in various parts of the country, he foresees that it will not be a great while before many of the main highways between large cities will be paralleled with concrete roads exclusively for motor cars.

A particular feature of Hassam's method in motor road construction, is the use of wire netting between a lower and upper layer of stones. After the upper layer has been pressed down with a steam roller so that the bottom of the stones project through the wire netting, concrete is poured in, binding the stones, the netting and the concrete itself in a solid mass. One ordinary crew can construct a mile of such road in three and one-half days, it is claimed, and after it has been given a proper opportunity to set, the passage of time will make it harder the older it gets.

Motorphobia Delays Jury Trials.

Popular prejudice against automobiles and their owners is so general in Columbus, O., as to make it very difficult to fill out a jury in damage cases where automobilists are defendants. In a recent case of a $1,000 suit brought by a rural mail carrier against a motorist whose car, it was alleged, frightened the carrier's horse, the trying of the case was delayed for a long time by the fact that most of the men summoned to act as jurors openly expressed their enmity toward all operators of motor vehicles, as a class.

Forbids Use of Streets as Garages.

Automobile agents who make the street in front of their establishments a show room for the cars they handle have been called to account in Wichita, Kan. The police are taking active measures to break up the practice, and threaten arrest if it be continued.

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The Week's Patents.

893,502. Motor Vehicle. Russell Huff, Detroit, Mich., assignor to Packard Motor Car Company, Detroit, Mich., a Corporation of West Virginia. Filed Dec. 18, 1907. Serial No. 407,054.

1. In a motor vehicle, the combination with the frame, the steering column, the forward spring, and the bracket depending from the frame and connected with the spring, of a steering gear casing having two arms, one of which is attached directly to the frame and the other to the said bracket.

893,549. Axle. David E. Ross, Brookston, Ind., assignor to Ross Gear and Tool Company, La Fayette, Ind., a Corproation of Indiana. Filed Sept. 11, 1906. Serial No. 334,128.

1. As a new article of manufacture, an axle made in the form of an I-beam, said axle being formed of a single piece, and having a receptacle for the gears within the flanges of the I-beam.

893,655. Cushion Tire. Charles L. Rempes, Akron, Ohio. Filed Aug. 6, 1906. Eerial No. 329,418.

1. A cushion tire comprising a shell having outer members with reinforced annularly corrugated edges and a central, radially extending reinforced supporting rib formed integral with the central portion of said shell; said rib having a wedge shaped inner edge projecting between the inwardly turned edges of outer members; substantially as described.

893,656. Internal Combustion Engine. Sigurd I. S. Ringi, Stockholm, Sweden, assignor to Motoraktiebolaget Reversator, Stockholm, Sweden. Filed Dec. 12, 1906. Serial No. 347,471.

1. In devices for actuating a valve appertaining to a four-stroke internal combustion engine, the combination of a disc having cam-slots forming two paths therein, a sliding piece adapted to describe one or the other of the said paths according to the direction of rotation of the engine, means actuated by the said sliding piece for operating the said valve, and means for causing the sliding piece to pass in less than one revolution of the disc from the one path into the other, when the direction of movement of the engine is reversed, substantially as and for the purpose set forth.

893,672. Tire for Vehicle Wheels. Reuben Stutsman, Des Moines, Iowa, assignor to The Bartholomew Company, Des Moines, Iowa, a Corporation of Iowa. Filed July 16, 1897. Serial No. 644,799.

1. A rubber vehicle tire consisting of a piece of rubber having an aperture longitudinally through it and a wire inserted in said aperture, the wire having at one end a tubular portion, and its opposite end being passed through the said tubular portion, and having its free end coiled about the portion of the wire immediately back of the tubular portion, substantially as set forth.

893,675. Distributing Gear for Explosion Motors. Max Thier, Eufurt, Germany. Filed March 18, 1904. Serial No. 200,447.

1. In a distributing gear for explosion motors, the combination with a rotary cylinder having two grooves in its circumferential surface, of a crossing of said grooves, a shoe adapted to slide in said grooves and to be moved by the same, a lever connected with said shoe and adapted to be actuated by the same, and means for causing the shoe to pass through said crossing or to evade the same; another lever adapted to be oscillated in a plane located at right angles with respect to the first lever and carrying the same, means for oscillating the second lever so as to cause this lever to oscillate the first lever in the same direction, substantially and for the purpose as described.

893,677. Resilient Wheel. John C. Turnage, Richmond, Mo. Filed Oct. 7, 1907. Serial No. 396,284.

1. A wheel having a rim provided with transversely disposed perforations, a tire surrounding the rim and being spaced from the same, coil springs interposed between the rim and the tire, plates attached to the tire and having upon their inner sides recesses adapted to receive the coil springs when they are expanded laterally and bolts passing transversely through the side plates and the perforations o fhe rim.

893,680. Shock Absorber. Lewis S. Watres, Scranton, Pa. Filed June 26, 1907. Serial No. 380,863.

1. The combination with a spring, of a shock absorber comprising a pair of non-rotary members and a rotary member, said rotary member having threaded engagement with one of said non-rotary members and having frictional engagement with the other non-rotary member, and anti-friction bearing balls interposed between the said rotary member and the latter noted non-rotary member, and so arranged that under compression or cushioning movements of said spring the said rotary member will be rotated under but slight frictional resistance, while under recoil of said spring the said rotary member will be pressed into engagement with the said latter noted non-rotary member and will be rotated under frictional resistance, substantially as described.

893,712. Starting Device for Explosive Engines. Julian F. Denison, New Haven, Conn., assignor of one-half to John E. Mar, West Haven, Conn. Filed Dec. 13, 1904. Serial No. 236,654.

In an explosive engine, the combination of a plurality of cylinders, a source of fluid pressure supply; means for admitting fluid pressure into each of said cylinders in succession to start said engine, said means comprising a valve plug inserted in the side wall of each cylinder respectively, a common valve-controlled connection between the fluid pressure supply and each of said valve plugs, a passage in each plug opening into the cylinder, a valve controlling said passage normally spring-pressed to seated position, and adapted to be actuated in either direction by fluid pressure, a second passage connecting said valve plug with the pressure connection aforesaid, a valve controlling said passage and having a stem projecting outside of the plug, a spring between the outer end of said stem and the plug tending to seat the valve; a passage connecting the aforesaid two passages in the plug; a cap-plate for said plug providing a guide for the first mentioned valve in the plug; an eccentric and rod for each of said last named valve-stems operated from the crank shaft of the engine, said eccentrics being so relatively disposed upon the shaft that one of said valve stems will be actuated by its corresponding rod in every rotatable position of the shaft, and means for guiding said rods.

893,715. Vehicle Wheel. Ezra Fishburn, Overbrook, Kan. Filed Sept. 10, 1907. Serial No. 392,094.

1. In a vehicle wheel, the combination with the peripheral covering secured together with lacing to the felly of the wheel a cushion tire, cable wires passed through said tire, a felly, a metal band passed around

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said felly of angular lower stationary and upper movable T-shaped plates, thimbles secured to the inner surfaces of the upper T-shaped movable plates and the angular lower stationary plates and springs having their ends located in the thimbles.

893,779. Drive Chain. William M. Butler and Warren J. Belcher, Hartford, Conn., assignors to The Whitney Manufacturing Company, Hartford, Conn., a Corporation. Filed Jan. 15, 1908. Serial No. 411,007.

1. A drive chain consisting of blocks, and side plates to pivotally unite said blocks, said side plates extending beyond the lower edge of the blocks, a strip of pliable material to encircle each pair of side plates, there being teeth on the lodew edges of the plates to extend through the meeting adges of said strip, the ends of the teeth being bent over to secure the strip in position.

893,780. Drive Chain. William M. Butler and Warren J. Belcher, Hartford, Conn., assignors to The Whitney Manufacturing Company, Hartford, Conn., a Corporation. Filed Feb. 8, 1908. Serial No. 414,940.

1. A friction drive chain comprising pivotally connected elements, a flexible covering strip extending transversely around each alternate element, and a fastening device to engage the abutting ends of each strip to tightly secure the covering strip to the enclosed chain element to prevent the latter from slipping.

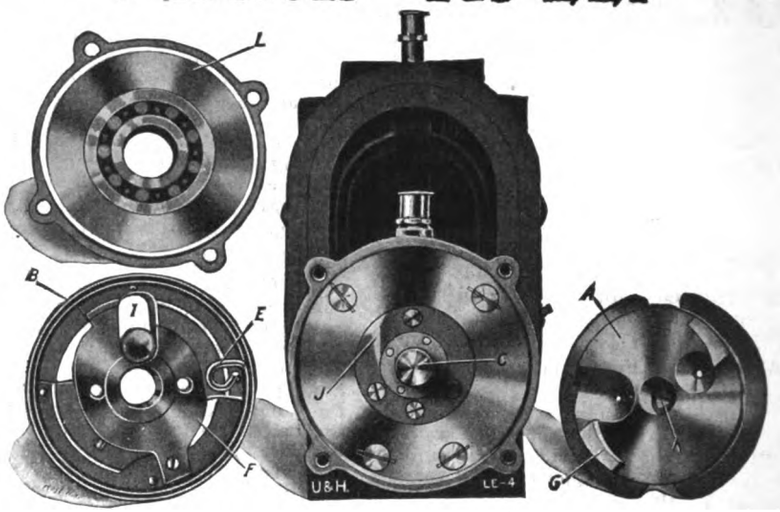
983,787. Friction Drive Chain. Edward J. Conklin, Walden, N. Y., assignor, by mesne assignments, to Whitney Manufacturing Company, Hartford, Conn., a Corporation. Filed June 28, 1907. Serial No. 381,187.

1. A drive chain comprising blocks and plates and a casing therefor comprising a series of pieces secured to the inner surface of the blocks and plates of said chain, and a second series of pieces secured to the outer surface of the same, the first series of pieces being bent inward against the sides of the chain and into contact with the second series of pieces, and means for securing said pieces to the blocks and plates of the chain, as described.

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A, reverse side of steel driving disc; B, special bronze disc which slips over end of armature shaft C, and drives armature; E, end of coil spring engaging steel disc A, by means of pin (not seen) in front face. The other end of E is attached to B. F, G, co-acting cam-shaped faces which act as stops; J, stationary steel face cam; K, hollow shaft projecting from front of A and carrying driving gear; L, cover plate (reversed).

A slips over C following B, and drives B counter-clockwise through the tension of spring E, which holds faces F G together. When cranking, the steel ball in slot I drops into engagement with cam J and is forced against the flat face of A, thereby holding B and the armature against rotation. A continues to turn until the radial depression meets the ball, which slips into the depression and releases B. The spring carries B quickly past the firing point until faces F G come together. This gives maximum spark with retarded timing.

When the motor starts, centrifugal force carries the ball outward from the cam J, and the spring holds A and B together as a single unit.

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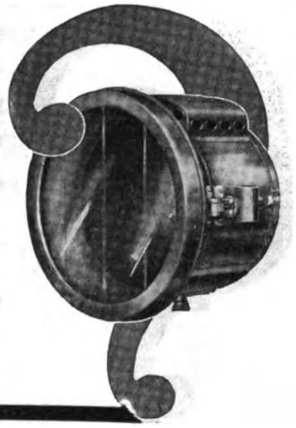
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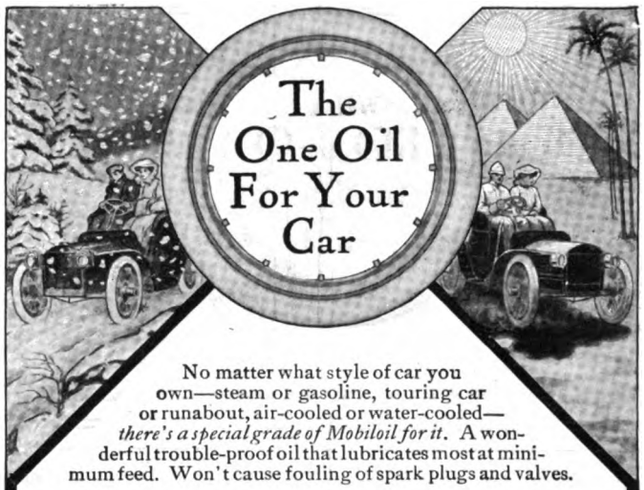
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Because they recognize these lamps as more efficient, more durable—and in fact, a better product from any point of view than any other motor lamp on the market.



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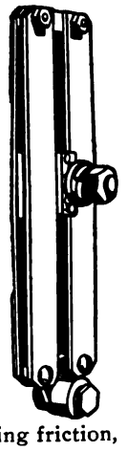
is the right oil for *your* car under all conditions. As a safe and scientific lubricator for every style and type of automobile engine it has no equal.

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isn't so unpleasant. It's the finish of the reverse motion that makes the nerve centers yell for

1909 Gabriel Shock Absorbers.

Jolts and jars are taken up by a retarding friction, gradually applied in proportion to the shock. Does not interfere with the natural resiliency of springs over smooth roads.

Our new model has improvements which give increased bearing surface, eliminates noise or rattle and greatly increases its effectiveness and durability. Can attach to any car or any type of spring.

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¶ If every driver had to ride in his own tonneau, every car would be quickly equipped with Supplementary Spiral Springs. Owners are not intentionally selfish—many of them just thoughtless. Usually driving or sitting beside the driver, the riding qualities of the tonneau are to them practically unknown.

¶ Not so with the passengers. Rear springs must be strong enough to resist severe shocks under a full load. That means stiff springs under ordinary loads, with the shocks and jars transmitted to the passengers—guests whose comfort ought to be a first consideration.

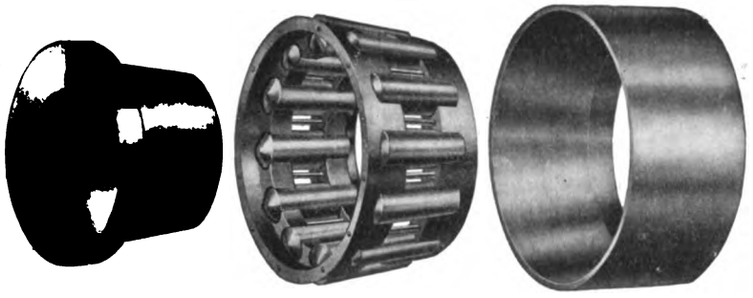
¶ **SUPPLEMENTARY SPIRAL SPRINGS** take up all the average bumps and road inequalities and come into real action with the jolts and jars encountered at speed.

¶ With the S. S. S., your springs never whip or touch. They prevent breakage and are the most economical and useful accessory ever provided for a car. Every live dealer carries them and their attachment is a matter of a few hours' time. Do it NOW.

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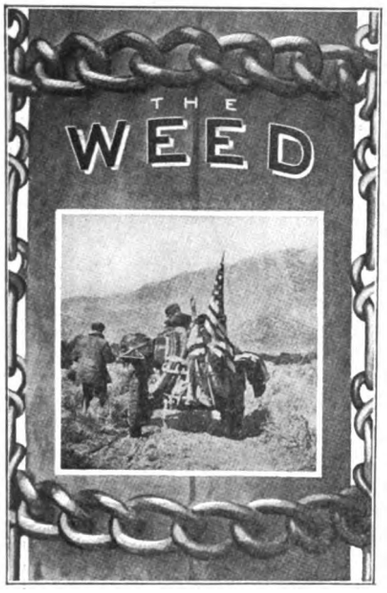


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¶Absolutely guaranteed in all respects. Made interchangeable with any other form of conical or tapered roller bearing, and may be used in existing constructions, replacing types which are less efficient.

¶Details and prices upon request.

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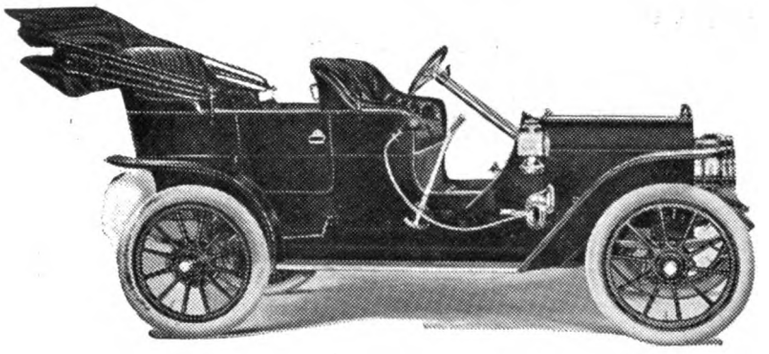
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Model B Touring Car, price $1,350.00. Full equipment, including two gas lamps, two side oil lamps, one tail lamp, generators, horn, tools, jack, pump and batteries. Top, $75.00 extra. Runabout, $1,300.

¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

¶ The live agent will find in the Oakland a car that appeals to a large and intelligent class of purchasers and that will justify the fullest confidence.

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Wridgway No Glare Shade

which adds to the efficiency of the lamps, and keeps glare from blinding other users of the highways. Can be fitted to any existing lamp.

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drive their cars more miles per dollar cost than any others

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The Best Tubes Ever Manufactured.
Are the most economical. Do not deflate when punctured.

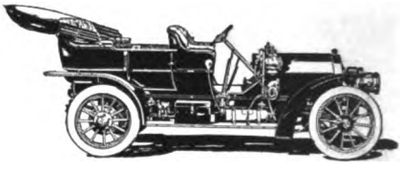
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Includes genuine $150 Splitdorf Magneto (free) and ½ inch larger tires than you get with any other car at this price. To have other cars equipped with these tires you must pay $50 extra. Write for full information to-day.

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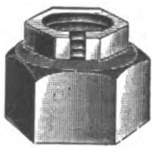
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JUSTIFIES ITS NAME

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Steel Tires

Full of Air.

Tire expense cut in two.

Cannot Blow Out, Rim Cut or Puncture.

As Flexible as Rubber Anti-Skid.

That part of a tire with a blowout or a rim cut in it will last longer than any other part if encircled by a few sections of steel.

Thousands in use.

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The Simplest Automobile in the World.

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We had to refuse him—50 extra was all we could grant, for 500 other dealers have all made the same request.

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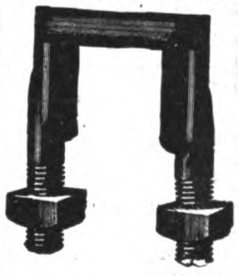


The Only Cure for Tire Troubles
The Only Genuine Spare Wheel
GET A
STEPNEY
AND KEEP GOING

Agencies in all the large cities. Catalogue B tells all about it. Write NOW.

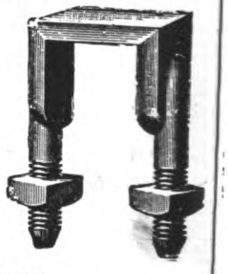
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Satisfaction Guaranteed

Thousands of our Spring Clips are now in use, having been supplied to the leading automobile manufacturers.



Have you secured our prices?

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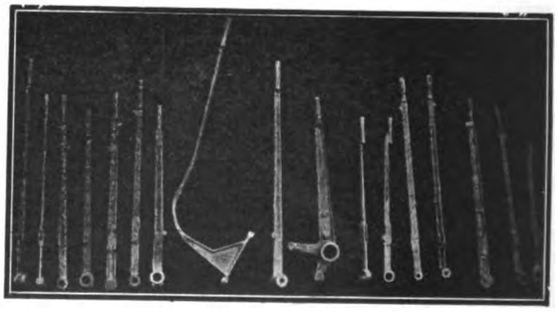


A very handy wrench for inconvenient places. Drop forged steel throughout, parts carefully hardened, and are interchangeable. Has patent nut locking device at side.

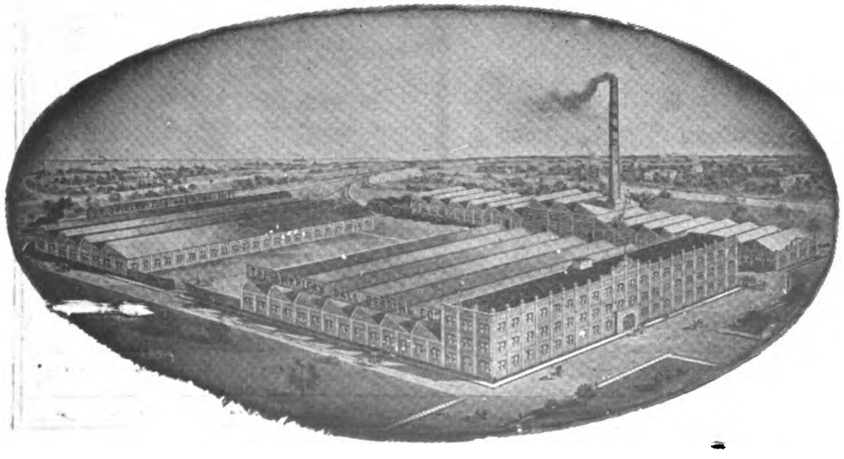
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Sole Makers
THE WILLIAM CRAMP & SONS SHIP & ENGINE BUILDING COMPANY, - Philadelphia, Penna.



The output of complete Front and Rear Automobile Axles of this plant exceeds the capacity of all competition combined.

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"Firestone" Tires WIN

FAIRMOUNT PARK 200-MILE RACE

There was but one winner in the Fairmount Park 200-mile race, despite the cleverly worded advertisements written to create an entirely different impression.

The winner was the Locomobile No. 10, equipped with FIRESTONE STANDARD CLINCHER TIRES ON FIRESTONE DEMOUNTABLE RIMS. This was also the equipment of the other Locomobile entry which made such a good showing.

The tires used were out of regular stock and both cars went through without any tire trouble. Of the sixteen starters only five cars finished and two of these were those with Firestone Tires.

Firestone Tire & Rubber Co., Akron, Ohio

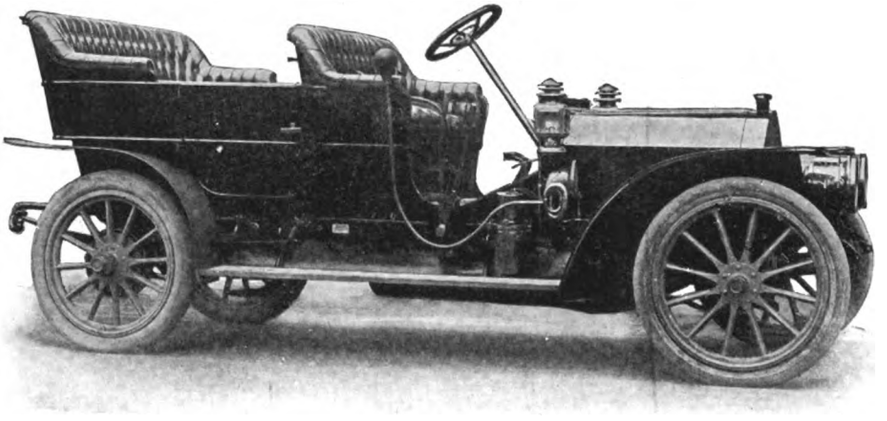
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1909 Models of Gasoline Touring Cars (5 passengers), Runabouts (3 passengers), Roadsters (4 passengers), Limousines (7 passengers) and Landauiets (7 passengers); also Victoria Phaeton now ready for delivery

Advance Circulars Giving Detailed Descriptions Mailed on Application



Agents Wanted in Unoccupied Territory

Mark XLVIII, 4 cylinder, 5 passenger, 29 H. P. Touring Car
Fully equipped as above. ready to run, $2,750.00

Manufactured by ELECTRIC VEHICLE COMPANY, Hartford, Conn.
Members A. L. A. M.

THE BRAMPTON MOTOR CHAIN



All side plates on both sides of the Brampton Chain are stamped "BRAMPTON."

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement. THE BRAMPTON CHAIN is made of self-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like THE CELEBRATED BRAMPTON CHAIN because some of the other chain makers began to copy the design and shape of the BRAMPTON CHAIN links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the BRAMPTON CHAIN than ever before. These chains somewhat resemble the BRAMPTON in appearance, but the manufacturers of such chains have been unable to copy the material —self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the BRAMPTON MOTOR CHAIN in the past ten years.—"ENUF SED."

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the BRAMPTON FILLS THE BILL, and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size. We have in stock chains to fit all American and foreign cars.

YOUR 1909 CAR

You can have the new car that you order fitted with the CELEBRATED BRAMPTON CHAIN if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.
Agents wanted in unoccupied territory. Catalog on request.

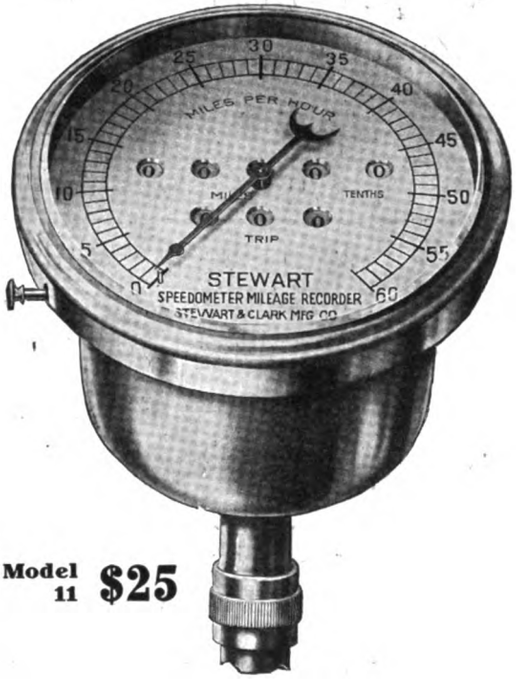
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The New Stewart

Model 11. Destined to be the most popular, most attractive, most accurate, most satisfying, and the quickest selling speedometer ever produced.



Model 11 **$25**

Full size 4-in. model. Scale, 0 to 0 miles. Enclosed Season Odometer. Enclosed Automatic Resetting Trip Odometer. Scale 7½ inches long. Equipped with famous Stewart Flexible Shaft and Swivel Joint.

NEW CONSTRUCTION

Multipolar Induction Principle

Operating on the induction principle, utilizing the current from a multipolar generator. This construction permits the use of an indicating member of low inertia, thus insuring the most sensitive and accurate reading from 0 to 60 miles.

The needle acts from the center of the dial, which arrangement permits the use of a scale three times as long as ordinarily used, making it the most easily read of all speedometers. It is equipped with a season odometer—capacity 10,000 miles and repeat, also our new trip odometer of three dials, registering miles and tenth, and which may be reset to zero automatically by means of a push button.

The construction is of the costliest kind, every part of the same high standard used in all Stewart Speedometers and includes jewel bearings. The equipment will be the regular Stewart link-type flexible shaft and patented swivel joint, furnished with our highest priced models.

We recommend this exceptional instrument to the motorist who desires the best speedometer that money can buy — the best irrespective of price — who wants a speedometer to indicate the exact speed and correct mileage of trip and season, and do it constantly day after day and year after year.

We stand back of Stewart Speedometers with a Five Year Absolute Guarantee

THE ONLY speedometer built to carry a long-term guarantee

Ready for delivery about November 15th. Send for catalog.

Stewart & Clark Mfg. Co., 509 Diversey Boulevard, Chicago, U.S.A.

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THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

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Touring Car **Roadster**
Limousine **Landaulet**

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.

ROCHESTER, N. Y.

Member A. L. A. M.

TIME WAS when tire worry spoiled much of the enjoyment of motoring and the motorist who footed the bills had no voice in the matter.

THEN CAME THE AJAX wrapped tread tire with its superior services.

AND NEXT THE AJAX 5,000 MILE GUARANTEE —If the user of Ajax tires fails to obtain 5,000 miles service from his tire, it is for us to worry—not him, and we make good.

WITH AJAX TIRES the tire problem resolves itself into a plain proposition. We know that they will do, and we offer you the best kind of an insurance for expressing your willingness to find out for yourself.

IS THERE ANYTHING MORE BUSINESS-LIKE THAN THIS?

Write for copy of Guarantee, stating what size tire you are using. Address Dept. A.

AJAX-GRIEB RUBBER COMPANY

GENERAL OFFICES: N. E. Cor. 57th St. and Broadway, New York
Factories: Trenton, N. J.

BRANCHES:
New York, 1776 Broadway — Denver, 1529 Cleveland Place
Boston, 819-a Boylston St. — Seattle, 1102 Broadway
Chicago, 1418 Michigan Ave. — San Francisco, 460 Golden Gate Ave.
Detroit, 743 Woodwood Ave. — Los Angeles, 1040 S. Main St.

Agents in all large cities.

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$1500 for a Car

Embodying $11,000,000 Worth of Experience

There are two kinds of cars:

One is made merely to sell at a low price. The other is made to give service; is mechanically correct; is constructed of the best material, and is sold at a modest percentage of profit over the cost. That is the Mitchell $1500 car.

The manufacturer's experience; his reputation, and a large plant can alone guarantee a good car at a low price.

We buy and make on a large scale. We can turn out a car at a figure wholly prohibitive to the small maker.

$11,000,000 worth of Mitchell cars have been giving complete satisfaction for eight years.

Our plant is now four times as large as it was when we started to make these cars.

Our $1500 car is perfect all the way through down to the smallest details. We couldn't use more care or better material in its construction if we asked twice as much for it. In it is crystallized all of our eight years' experience.

A big, roomy, luxurious 5-passenger touring car, with 4-cylinders, 28-30 horse power engine and capable of doing 50 miles an hour. This is our Model K which we offer you for $1500.

We even go further than this. We include $300 worth of actual automobile value which with any other $1500 car you would have to buy extra.

For instance, our price includes a $150 Splitdorf Magneto in addition to the regular battery ignition system.

It includes 32-inch wheels and 4 inch tires—all other $1500 cars use 3½ inch tires. Our tires cost us $50 more per set than the 3½ inch tires.

It includes a dozen other features which you would expect to find only in cars selling for $5000 or more. Our crank shaft has five bearings; one at each end and three in between. Others have two—one at each end. Imagine the play, the weakness.

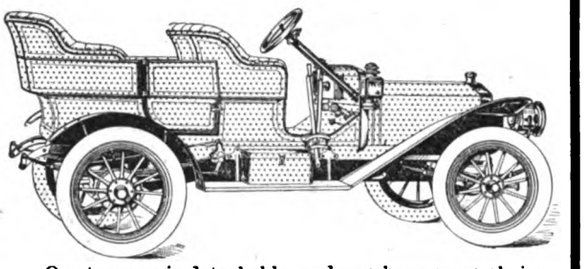
We have built 5000 crankshafts and not one has ever broken.

Our transmission is of the best selective, sliding gear type—the kind that is used in all of the well known high-priced cars.

Our cylinders are cast separately.

We use as much vanadium or nickel steel as the most expensive cars on the market.

We use aluminum castings wherever possible and we strengthen them with bronze.



Our tonneau is detachable, and you have your choice of three styles of body.

Two complete ignition systems—the Splitdorf $150 Magneto and the ordinary battery system.

The lubricating system is the best we have found in our eight years experience.

If we were not equipped to turn out ten cars to the other makers one this Model K Mitchell would certainly cost you $2000 to $2500.

Remember, that we do not buy parts from other makers. We build our cars, from the ground up, here in our own factory.

Many concerns buy their parts from separate makers and simply assemble them. Such cars are experiments—each individual car is an experiment.

But we are able to machine our parts to the accuracy of 1-10000 part of an inch. So our car is in harmony at every point. It is silent and smooth and reliable.

Don't take our word for these facts. Examine the car yourself, ride in it, give it the hardest try out you know. Then if it doesn't make good don't buy it.

Full particulars upon request.

Mitchell

Mitchell Motor Car Co. 571 Mitchell St. Racine, Wis.

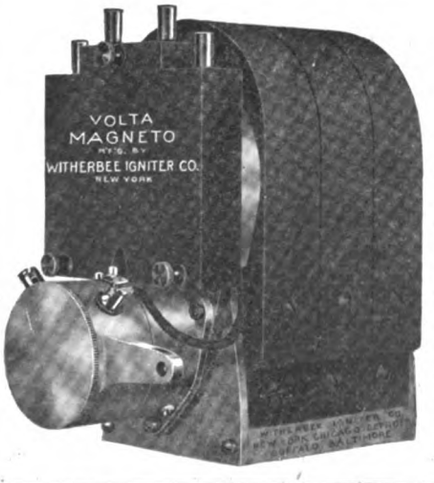
Standard Manufacturers, A. M. C. M. A.

THE

VOLTA MAGNETO

is so simple in construction that a novice can operate it as easily as an expert.

Witherbee for Ignition.



Wico Charging Device
Wico Ignition Wire
Wico Spark Plugs
Witherbee Batteries
Wico Inspection Lamp

Witherbee Igniter Co.

Makers of the famous Witherbee Battery

1876 BROADWAY, NEW YORK

CHICAGO
1429 Michigan Ave.
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1542 Broadway

Stevens-Duryea

LIMOUSINES AND TOURING CARS

THE STEVEN-DURYEA will stand more punishment on muddy, rutty, hilly, sandy, stony, bumpy, "thank-you-ma'am" roads without breaking, chafing, blowing up or wearing out tires, cutting out engine bearings, springing the frame or breaking the springs than any four cylinder or six cylinder car in existence. Such immunity is worth several hundred dollars to you during the life of the car. It is due entirely to our "Unit Power Plant" and its "Three Point Support."

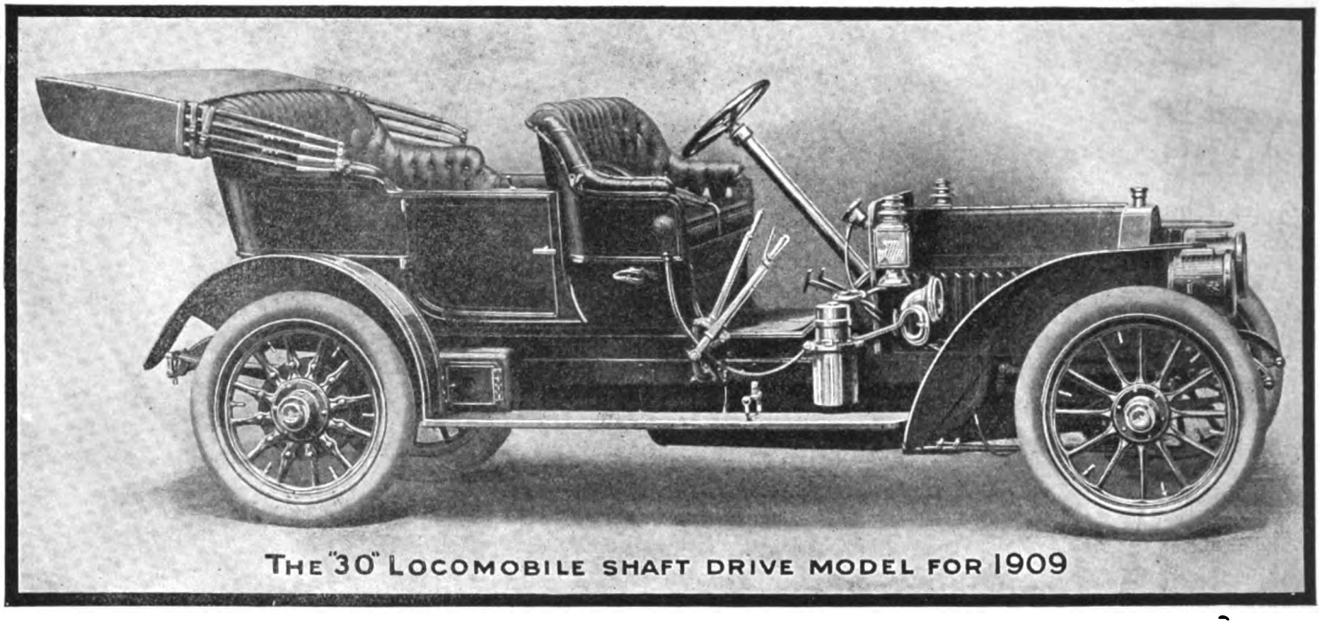
WRITE FOR LIMOUSINE AND TOURING CAR CATALOGS.

STEVENS-DURYEA CO.

CHICOPEE FALLS, MASS.

Member of Association of Licensed Automobile Manufacturers.

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THE "30" LOCOMOBILE SHAFT DRIVE MODEL FOR 1909

THE MOTORING PUBLIC WILL BE INTERESTED IN READING THE FOLLOWING CIRCULAR ANNOUNCING **1909** LOCOMOBILE MODELS WHICH THE **LOCOMOBILE** COMPANY OF BRIDGEPORT, CONN., HAS RECENTLY SENT TO THEIR DEALERS AND CUSTOMERS:

We signalize our tenth anniversary of the production of automobiles by the announcement of two splendid models—undoubtedly the best that we have ever offered to the public.

Ten years ago the Locomobile demonstrated for the first time the wonderful possibilities of the motor car, and gave the automobile business its first great impetus. To-day the Locomobile is held in the highest esteem. It is everywhere regarded as a car of the highest quality—a car of *composite* merit, satisfactory in every respect. It is specially noted for reliability, and experts agree in rating it the most durable car on the market.

The 1909 product will enhance the high reputation the Locomobile has gained.

We announce an entirely new model "30" *Locomobile,* a five-passenger touring car intermediate in power between our "20" and our "40." It will be equipped with shaft drive.

The "40" *Locomobile* should be the logical choice of those who desire a *high powered car.* The "40" will be produced as a seven-passenger touring car, a stylish roadster, and as a closed car with Pullman Limousine or Landaulet body.

This circular will furnish advance information about 1909 Models, until our preliminary catalog is ready.

ADVANCE INFORMATION CONCERNING 1909 MODELS

"40" LOCOMOBILE.

This car is thoroughly typical of Locombile construction and is the most powerful model we have ever built. It is equipped with a four-cylinder motor of 5-inch bore and 6-inch stroke, giving about 60 horse-power on the testing stand, thus affording high speed and fine hill climbing ability. The artillery wheels are 36 inches in diameter: the tires are 36 x 4 inches front and 36 x 5 inches rear. The wheelbase is 123 inches, and the length over all is 16 feet 1 inch.

The "40" *Locomobile* is a splendid touring car for seven passengers and is notable for it beauty of line, luxurious appointments, and delightfully easy riding qualities. It is a touring car par excellence and will meet any test of endurance to which it can be subjected. *Price, with lamps and equipment,* $4,500. *Top extra.*

The "40" *Runabout,* brought out near the close of the 1908 season, will be an attractive feature of the 1909 production. The body is very attractive and accommodates four passengers, all seats being very

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comfortable and easy riding and convenient of access The individual front seats are fixed; the rear seats may be removed or only one or both can be used, making the car available for two, three or four passengers as desired. The "40" Runabout can also be supplied with the type of body known as the "toy" or "baby" tonneau, and which enjoys considerable popularity. *Price, with standard body or "baby" tonneau, including lamps and equipment,* $4,500. *Top extra.*

The "40" Limousine and the "40" Landaulet are both beautiful high-powered closed cars. The bodies are roomy, beautiful in design, of the best possible workmanship and finish, and are equipped with extra Pullman chairs. *Prices of these closed cars announced later.*

"30" LOCOMOBILE.

This model is equipped with a four-cylinder motor of 4½-inch bore and 4½-inch stroke, giving about 38 horse-power on the testing stand. As the new model is intermediate in size between the "20" of former years and the "40" Locomobile, it is rated as a "30."

The car embodies all of the special features which have for years identified the Locomobile, such as low tension ignition; bronze engine base and gear box (much stronger than aluminum commonly used); alloy steel in the crankshaft, steering gears, transmission shafts, pressed steel frame, gears, and other important parts; heat-treated drop-forgings of our own manufacture; four-speed selective transmission; imported ball-bearings in wheels, gear box, and other important places. The wheelbase is 120 inches, yet the car can be turned in a 38-foot street. The length over all is 15 feet. The wheels are 34 inches in diameter, tires are 34 x 4 inches front and 34 x 4½ inches rear.

The body is graceful in design and very commodious, seating five adults with entire comfort. *Price of the "30" Locomobile touring car, as illustrated with lamps and equipment,* $3,500. *Top and speedometer extra.*

Another variation of the "30" Locomobile is the "30" *Runabout,* a roadster of the latest type with sharply inclined steering post and equipped with a body similar to that of the "40" Runabout, and which may be used for two, three or four passengers as desired. It will also be supplied with the "baby" tonneau. *Price, with lamps and equipment,* $3,500. *Top extra. Prices of closed cars announced later.*

A feature of the new "30" chassis is the use of shaft drive, the details of which are described in the following paragraphs:

LOCOMOBILE SHAFT DRIVE CONSTRUCTION.

We have long appreciated that shaft drive has some very desirable features when applied to a car of the size of the "30" Locomobile. Our new shaft-driven car is fully equal in reliability and lasting qualities to our famous chain-driven cars, and we believe that it combines more good features than any other car on the market, whether of foreign or American design. Some of these features are as follows:

1. *Complete removal of all torsional stresses from the car axle tubes.* Distance rods, similar to those on our chain-driven cars, transmit the driving stresses to the frame and maintain parallelism of the front and rear axles. These distance rods carry the brakes, and their rear ends are free to turn on the axle tubes. Consequently when the springs are depressed the distance rods turn on the axles and do not twist them. Also, when the brakes are applied the braking stresses are not communicated to the rear axle or driving mechanism. Also the power is not transmitted through the springs.

The spring chairs are also free to turn on the axle tubes, and thus the only duty of the springs is to carry the load. This arrangement makes the Locomobile shaft drive car a very easy riding one, in addition to removing all torsional stresses from the rear axle tubes.

All brakes are enclosed and protected.

2. *Exceptionally strong rear axle construction.* The axle tubes are of alloy steel with inner ends forced into the openings of the differential housings by hydraulic pressure and securely riveted in place. Unlike many or most cars, no brazing whatever is used. It will be noted that our form of construction would be the strongest possible in any case, but owing to the removal of all torsional stresses from the tubes it is really very much stronger than necessary. There is no tendency for the tubes to loosen in the housing.

3. *Straight line drive.* When the car is loaded the propeller shaft is almost exactly horizontal—thus the power of the motor is transmitted in a straight unbroken line to the rear axle, thus eliminating loss of power through the universal joints.

4. *Complete universal action.* The propeller shaft is not only horizontal, but is provided with a universal joint at the front end and a *slip universal joint* at the rear end. The latter compensates for any change in distance between the rear axle center and the gear box. The two universal joints compensate for all other stresses as well, so that the transmission of power from the motor to the rear axle is perfectly accomplished without any binding or straining under any road conditions. As the propeller shaft is horizontal, there is very little action on the part of the universal joints, and very little power absorbed by them—furthermore, as the joints are of the best construction, fully protected and lubricated, the *wear* is reduced to a minimum.

5. *Flexible drive.* A torsion rod is provided to overcome the torque reaction of the bevel driving gears. The rear end of this rod is made fast to the differential housing and the front end is connected to the cross member of the chassis frame by a spring suspension. When the car is started in either direction the springs are compressed and the torque reactions are absorbed, reducing the tendency to raise the body when the car is started. Thus the drive from the motor to the rear wheels is a flexible one—a most desirable feature.

6. *Truss rods.* Diagonal tension rods extend from the lower part of the differential housing to the outer extremities of the rear axle tubes. These truss rods transmit the stresses to the wheels instead of permitting them to be concentrated at the center of the axle. This form of construction produces an axle of moderate weight and maximum strength.

7. *Excellent design for driving axles.* The driving axles are of the floating type and rotate inside of the axle tubes. As the weight is all carried on the tubes, the axles only have to transmit the power. The inner ends have a square fit into the differential bevel gears and the outer ends are in the form of dogs or jaw clutches integral with the axles. These engage with the hubs of the wheels, affording an absolutely positive drive and at the same time making it possible to remove the driving axles at any time by simply removing the hub caps.

Summary. It will be seen that the Locomobile shaft drive construction runs very nearly parallel to the Locomobile chain drive construction, and that every weak spot in the shaft drive has been studied and overcome. The most exhaustive road tests have proven most conclusively the durability and lasting qualities of the new Locomobile shaft drive.

LOW TENSION IGNITION.

Locomobile low tension ignition adopted in 1905 will be continued. We have had four years' experience with high tension ignition and an equally long trial of low tension ignition, and the results indicate that the latter is far superior in reliability. The Locomobile low tension system differs from the ordinary make-and-break on account of the simplicity of the design and the use of iridium contacts, which does away with frequent and unnecessary timing of the igniters. Locomobile low tension ignition is superior to any form of jump spark on account of the fact that the electrical problem is infinitely more simple and enables the simplest type of magneto to be employed. Furthermore, our system is superior to the high tension ignition because there is no danger from short-circuiting and no complicated wiring—nothing but a few feet of low tension cable.

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Mongrel or Thoroughbred?

NOW IS THE TIME for you, Mr. Thoughtful Dealer, to decide what you will sell in 1909.

WILL IT BE A MONGREL? a car assembled from parts carried together from all over the country and hammered into shape as well as may be?

OR WILL YOU SELL THE THOROUGHBRED—a homogeneous mechanical masterpiece, every single part of which is the result of the same genius that devised the whole?

"ASTOUNDING," "MARVELOUS," "WONDERFUL," are the terms with which some assembled cars are now tagged, though they are astounding, marvelous and wonderful only to the assemblers, who like Rip Van Winkle, have been dozing in the growing woods of automobiledom and who now, bewildered by the progress that has been going on, seize upon time-tried and long-established practices and herald their adoption by the assemblers as brand-new discoveries.

LET'S REASON IT OUT: On the one hand you have the assembled car, with an engine bought from one manufacturer, a frame from another, and a transmission from a third, and so on down to the last rivet. The maker of the engine, the mill in which the frames are pressed, the transmission man, all derive their separate profits, leaving no other way to the assemblers to obtain their rewards than by skimping the quality of their "product."

AND THEY DO IT—THEY MUST! When you examine some of these astounding cars you will be truly astounded on finding that the four-cylinder engine is cast in one piece and has only two main bearings, whereas the Maxwell has four cylinders and five main bearings. You know well enough that making a motor with only two bearings is equal to leaving the engine to its own devices as far as alignment is concerned.

IT WILL BE A TOUGH JOB FOR THE DEALER to convince the purchaser who is wise that some four-cylinder engines of small dimensions will develop as high as 30 horsepower—because they can't.

MAXWELLS ARE A HOME-GROWN AMERICAN PRODUCT. The use of Maxwell features in Maxwell cars was neither a heaven-given inspiration nor the aping of foreign design, but the outcome of sound engineering sense.

WHEN 10,116 MAXWELL OWNERS testify to the excellence of their cars, all of which have been sold by Maxwell dealers, then the Maxwell proposition is one that you can't afford to pass by.

BEFORE HITCHING YOUR WAGON TO A STAR it will be wise for you to find out all about a dealership for Maxwells, the success of which is past and present, instead of lying in the dark and distant future that has swallowed so many wonderful cars that have been marvelous chiefly in their complete and rapid disappearance from the field of legitimate competition.

Benj. Briscoe

President.

MAXWELL-BRISCOE MOTOR CO.

Standard Manufacturers A. M. C. M. A.

P. O. Box 106, Tarrytown, N. Y.

Factories: TARRYTOWN, N. Y. NEWCASTLE, IND. PAWTUCKET, R. I.

Address communications to Tarrytown, N. Y.

Matheson

1909

Prices Reduced $1,000

And the Reasons Why

Heretofore the Matheson Car has been considered the highest priced as well as the highest grade American car on the market.

Millions of dollars worth of these cars have been delivered to customers who could afford to pay the higher price for **the best.**

Many other purchasers have been persuaded that some of the lower priced cars have been "just as good." Matheson owners who have used other makes of cars have answered that question satisfactorily. Send for their letters, which we have done up in a book.

In order, therefore, to still **maintain the unequalled quality** of the Matheson Car and at the same time give customers this magnificent car at the price of the cheaper cars, the makers have figured that by **doubling the factory output** and selling at a much closer margin of profit, the price of the Matheson Car equipped with Touring, Landaulet or Limousine bodies, could be cut $1,000, and the same chassis, equipped with Roadster or Tourabout bodies, cut $650.

Accordingly, the Company's working capital **has been increased by** $350,000, and after October 11, 1908, the purchaser can buy a genuine Matheson Car, the very finest of all motor cars of either European or American make, **at the makers' former prices to the agent or dealer;** namely:

	New Price	Former Price
50 H. P. 1909 Touring Car	$4,500	$5,500
50 H. P. 1909 Roadster	4,350	5,000
50 H. P. 1909 Tourabout	4,350	5,000
50 H. P. 1909 Limousine	5 500	6,500
50 H. P. 1909 Landaulet	5,500	6,500

VICTORIES

The great string of Matheson victories in the important speed, hill climbing and endurance contests of the past seasons, in competition with the greatest cars of Europe and America, can leave no room for doubt that the Matheson car has no peer on any market to-day.

GUARANTY

Every Matheson is guaranteed for 365 days. (Notice that most other cars are guaranteed for 60 to 90 days only.)

MATHESON AUTOMOBILE COMPANY

Main Sales Office, 1886-1888 Broadway, New York City

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NOTE THIS PERFECT SCORE!

Once Again the Auto-Meter Shows Its Supremacy—This Time in the Chicago Thousand Mile Endurance Run.



Five cars finished with perfect scores—4 of which were equipped with a Warner Auto-Meter—two Haynes—a Pierce and a Premier.

The miles registered for the two Haynes cars at the finish varied only 1-10 of a mile. Think of that for accuracy in a straight run of 1,000 miles. Significant was this fact, too, that no cars were penalized on account of Warner Auto-Meter falling down.

The drivers knew, to make a perfect score—to keep a certain speed maintained mile to mile—they could rely on the Auto-Meter as an accurate gauge.

These far sighted winners of perfect scores realized the Auto-Meter could be depended upon in any weather under any road condition—so it was selected because it was necessary.

The Warner Auto-Meter

The Warner Auto-Meter is the very utmost in a speed gauging instrument. Its supremacy is undisputed.

The Auto-Meter always has been used by the Glidden Pathfinders when they lay out the routes for the Glidden tour, because they know it's accurate to a fraction.

In the New York-to-Paris race the Thomas, the winner and only American contestant, was equipped with an Auto-Meter.

Equip your own car with a speed indicator that is infallible—any other kind is unnecessary. The Auto-Meter is the only kind that is.

Write for more details and arrange for a trial of the Auto-Meter. Address your requests for Free Trial to our nearest Branch House.

WARNER INSTRUMENT CO., Factory and Main Office, 287 Wheeler Ave., Beloit, Wis.

PHILADELPHIA—Cor. Broad and Race.
SAN FRANCISCO—550 Golden Gate Ave.
INDIANAPOLIS—330½ N. Illinois St.
LOS ANGELES—1124 Main St.
NEW YORK—1902 Broadway.
CHICAGO—1305 Michigan Ave.
CLEVELAND—2062 Euclid Ave.
PITTSBURG—3432 Forbes St.
BOSTON—925 Boylston St.
BUFFALO—722Main St.
ST. LOUIS—3923 Olive St.
DETROIT—239 Jefferson Ave.

Morgan & Wright Tires

will give you considerably more and better service than you are accustomed to receiving from pneumatics

It's safe to say that the amount of service this man received was more than he bargained for.

He writes:

"Have driven four of your tires for two seasons, making over 14,000 miles, and am still using the same set."

Yours respectfully,
St. Louis, Mich., Oct. 2, 1908. D. R. ANDREWS, M.D.

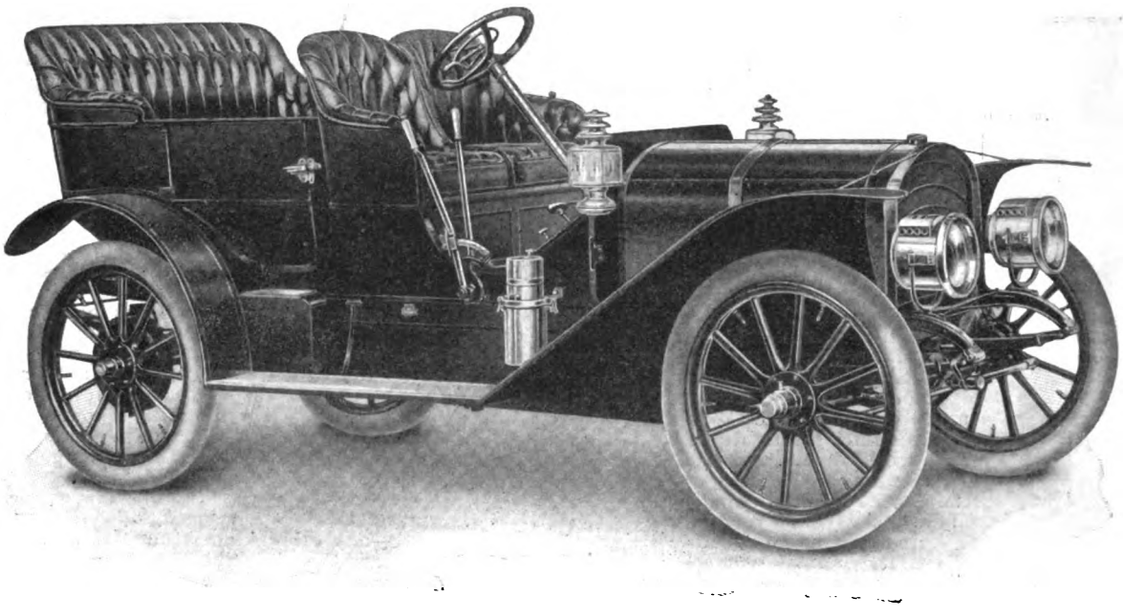
Don't put us on record as saying that every Morgan & Wright tire will give 14,000 miles service. The car weight, road conditions and Dr. Andrews' skill as a driver were possibly all in favor of his making such a record.

His experience does, however, show the service Morgan & Wright tires are capable of giving if treated properly.

Why not specify them on your car?

MORGAN & WRIGHT, DETROIT

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Model 34, Price $2,250

Two Vital Features of This Car.

THE offset crank shaft and straight line drive, more than any other features are responsible for the unusual efficiency, the high delivered power and the wonderful flexibility of control of this four cylinder, five passenger

Rambler

Most automobiles can develop sufficient power at high speed, but the owner's greatest need is for power at slow engine speeds—power on the hills—in stretches of sand and mud.

The offset crank shaft and stright line drive give flexibility, allow more high gear work without overtaxing the engine; that means less gear changing; less clutch manipulation—therefore ease and economy of operation.

This car can be throttled down to operate smoothly and steadily on high gear at three miles an hour. Or it can run forty-five miles an hour.

These features besides those big wheels, big tires, long wheel base, accessible engine, safety starting device, reinforced tubular axle, finished parts of genuine mahogany, perfect brake control, and large luxurious body, make this a car of highest quality.

Ready for immediate delivery. Please write for details now.

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco.

Representatives in all leading cities.

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, October 22, 1908. No. 4

ELECTRIC VEHICLE SUES BUICK

Seeks to Enforce Payment of Alleged Overdue Selden Royalties—Papers Served in New York.

Suit has been brought by the receivers of the Electric Vehicle Co., of Hartford, Conn., against the Buick Motor Co., of Flint, Mich., for an accounting and back royalties for the past year, alleged to be due under the Selden patent agreement which the defendant company entered into with the plaintiff and with the Association of Licensed Automobile Manufacturers at the time of its admittance to membership in the latter organization. The action is the result of a resolution adopted September 3 by a three-fourths vote of the A. L. A. M. calling upon the Electric Vehicle Co. to institute legal proceedings against both the Buick Motor Co. and the Olds Motor Works for the collection of their unpaid Selden royalties. The Olds suit was begun promptly thereafter and the company's Selden license subsequently canceled.

Service has been made on the New York branch of the Buick company by Joline, Larkin & Rathbone, the attorneys for the Electric Vehicle Co., so that the proceedings are now actually under way. In selecting attorneys for its defense, the Buick company has chosen the firm of Ward, Hayden & Satterlee. The retaining of this firm by the Buick interests is regarded as having considerable trade significance.

Asserts Prior Lien on Baker Assets.

The affairs of the bankrupt Baker Motor Vehicle Co. of New York, have been found by the receiver, James N. Rosenberg, to be in a complicated state by reason of the fact that the Baker Motor Vehicle Co., of Cleveland, O., for whose products the New York company had the agency, claims a prior lien on the assets over all the other creditors. The Cleveland company is a creditor to the amount of $25,000. In asserting its precedence it says that when the creditors of the New York company granted an extension some time ago, they agreed to subordinate their debts to new debts incurred since the extension, and maintains that the $25,000 indebtedness in question comes within the terms of the agreement. Litigation is likely to be necessary in order to determine the rights of the various creditors.

Union Carriage to Make Automobiles.

After considerable experimentation, the Union Carriage Co., of St. Louis, Mo., has decided to build automobiles for the coming season, and plans to market at least 500 the first year. The company has made horse-drawn vehicles for the past 17 years, its annual output being about 15,000. The officers of the company are George E. Deeds, president; W. C. Ingram, vice-president; George A. Laws, secretary, and John B. Keough, treasurer.

Githens is Now G & J Sales Manager.

Herbert A. Githens, who for seven years has traveled in G & J interests, has been appointed sales manager of the G & J Tire Co., of Indianapolis, Ind. He will not push automobile tires alone, but will have charge of the sales of all the departments of the company.

Wilcox Resigns from the Gearless.

George Wilcox, general sales manager of the Gearless Transmission Co., of Rochester, N. Y., has severed his connection with that company. His future plans are not yet announced.

Buggy Builders Take to Motors.

The Borough & Blood Buggy Co., of Marshall, Mich., has commenced the manufacture of motor vehicles. The machines are to be of the high wheeled buggy type.

Jackson Leaves the Thomas.

R. B. Jackson, general manager of the E. R. Thomas Motor Co., of Buffalo, N. Y., has resigned. He will take a rest of several weeks before assuming any new duties.

PLAN TO PAY CLAIMS IN FULL

Pope Motor Car Receivers Take Steps to Liquidate Indebtedness—No Sale of the Toledo Plant.

Negotiations are at present under way looking to the completion of a plan by which the creditors of the Pope Motor Car Co., of Toledo, O., will receive 100 cents on the dollar for their claims, following which the court will be asked to discharge the receivers. Efforts in this direction have been progressing for some time, and now enjoy the prospect of complete success.

The company's indebtedness to the banks, and to creditors in the trade is between $300,00 and $400,000, and the recent sale of the Waverley plant at Indianapolis, Ind., for $200,000, together with the $101,000 balance which the Indianapolis plant had in the bank has added to the available cash sufficiently to make it not improbable that a total may be arranged for that will enable the receivers to pay all the outside obligations in full.

For some months there have been rumors of the sale of the company's plant at Toledo, to R. D. Apperson, of Lynchburg, Va., arising from the fact that the latter was given permission by the receivers to examine the plant and to have his own auditors investigate the books, with a view to his purchasing. No options were either given or asked, however, and the negotiations have since languished to a point where there is little likelihood of the deal going through.

Aurora Composition Accepted.

Upon a showing of the assets on hand, the creditors of the bankrupt Aurora Motor Works, of Aurora, Ill., at a recent meeting agreed to a composition of 10 per cent. in cash or notes for the full amounts, due in one year and signed by the company. The settlement suggested is subject to confirmation by the court.

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In the Retail World.

The Rambler Automobile Co., of Kansas City, Mo., has been formed, and, as the name indicates, will devote itself chiefly to the sale of Rambler cars. E. G. Anderson will be general manager.

Bankruptcy proceedings have been brought against the General Motor Car Co., of San Francisco, Cal. Some of the petitioners have claims amounting to over $2,000, and a preference of creditors is alleged.

J. O. Caldwell, Jr., formerly in the automobile business in Boston, Mass., has located in Nashville, Tenn., and will open a garage and jobbing supply house at 145 Third avenue, North. He will also handle the Regal car.

As treasurer of the Ohio Motor Car Co., No. 1938 Euclid avenue, Cleveland, O., May A. Post has made an assignment to William B. Woods, in the insolvency court. The company's assets are estimated at $2,000 and its liabilities at $24,000.

The American Stepney Spare Wheel Co. has moved from 341 Fifth avenue to 1773 Broadway, New York City. The larger space facilitates the Eastern distribution of Stepney spare wheels, made by the Spare Motor Wheel of America, Ltd.

The Boston branch of the Firestone Tire & Rubber Co., has been removed from 9 Park Square to 145 Columbus avenue. In the new quarters complete facilities for handling solid and pneumatic rubber tire work of all classes have been installed.

The Matheson Company, of Maryland, has been formed to handle the Matheson in Maryland, Virginia and the District of Columbia. J. J. Mason is president of the company, which has secured a salesroom and garage at 1002 Morton street, Baltimore, Md.

The aristocratic precincts of Massachusetts avenue are to contain the Boston branch of Thomas B. Jeffery & Co., as Manager Charles has taken a lease of the finely appointed establishment at 95 Massachusetts avenue heretofore occupied by the Morrison-Price Co.

The Levy & Hipple Motor Co., now at 390 Wabash avenue, Chicago., Ill.,, has acquired the property at 1467-69 Wabash avenue for a salesroom and garage building. The new building will be three stories high, costing $25,000, and will have a front of white tile and glass.

E. P. Weber succeeds W. P. Cronin as manager of the Boston branch of the Diamond Rubber Co. As a special traveling salesman, Cronin will have his headquarters at a factory in Akron, O. His successor at Boston was a salesman in the company's Philadelphia branch.

The William R. Ruess Automobile Co., a newly organized concern, has taken three stores at 1028-30-32 South Main street, Los Angeles, Cal., which are to be made into one large salesroom and garage, the latter having a sign reading: "We Never Close." The company will handle Pope cars.

The J. A. Orlando Auto Co., of Columbus, O., has been put into the hands of a receiver, Judge M. G. Evans having appointed Harry E. Price in that capacity. The petition was brought by Jesse M. Morrison, who has a one-third interest in the firm and who represents that James Orlando, his partner, is wasting the concern's resources.

Matheson Chooses Its New Officers.

At the annual meeting of the stockholders of the Matheson Motor Car Co., of Wilkes-Barre, Pa., the election of officers resulted in Colonel Asher Miner being chosen as president, to succeed Charles W. Matheson, who is taking charge of the Matheson Automobile Co., of New York, the selling organization for the Wilkes-Barre company. J. W. Hollenback was elected vice-president, while Frank Matheson was re-elected secretary and general manager, and R. Nelson Bennett, treasurer, with Daniel C. Mackay assistant treasurer. The board of directors now includes J. W. Hollenback, I. M. Thomas, John A. Turner, Asher Miner, W. C. Sheperd, R. Nelson Bennett, W. H. Son, Frank Matheson, Charles W. Matheson, John C. Bridgman and E. S. Fretz.

Ajax Lands a Record Tire Order.

What is declared to be the largest order for automobile tires ever given has been awarded to the Ajax-Grieb Rubber Co., of New York City. The order calls for a total of 29,000 tires to be delivered before July 1, 1909, to the Maxwell-Briscoe Motor Co., the sum involved being over a half-million dollars.

Coleman Comes for a Brief Visit.

Frederic Coleman, manager of the London branch of the White Company, arrived in this country last week for a short visit. He regards the outlook in England for the coming season as not unfavorable, especially for steamers, in which he finds no serious competition.

Will Manufacture Cars in Goshen.

The Goshen Motor Works, which has incorporated with $25,000 capital, is making preparations to manufacture automobiles and engines in Goshen, Ind. The directors of the company are Orlando D. Ihrig, Guy B. Kessler, Lewis E. Ihrig, et al.

Goodyear Adding to Its Plant.

Ground has been broken for a new factory building adjoining the present plant of the Goodyear Tire and Rubber Co., Akron, O. It will be five stories high, 80x300 feet. About 300 more men will be employed.

Firestone Factory is Enlarged.

A four story addition to the factory of the Firestone Tire and Rubber Co., of Akron, O., is being constructed. It will be used exclusively for tires and is planned to increase the output by 25 per cent.

The Week's Incorporations.

Newark, N J.—Non-Blow-Out Auto Tire Co., under New Jersey laws, with $600,000 capital. Corporators—Edward D. Birkholz, Frederick R. Tyrell and R. S. Terhune.

New York City, N. Y.—City Autocab Co., under New York laws, with $250,000 capital. Corporators—L. F. Braine and Harry H. Gardiner, 32 West Fortieth street; Lloyd Milnar, 452 Fifth avenue, New York City.

New York City, N. Y.—White Tire Co., under New York laws, with $250,000 capital; to manufacture tires for automobiles. Corporators—L. L. Stein, L. L. Doblin and N. Coleman, New York City; E. P. White, Chicago, Ill.

Jersey City, N. J.—Standard Universal Rim Co., The, under New Jersey laws, with $50,000 capital; to manufacture metal wheels and rims. Corporators—B. S. Mantz, J. R. Turner and S. A. Anderson, of Jersey City.

Homestead, Pa.—Triumph Automobile Tire Co., The, under West Virginia laws, with $1,000,000 capital; to manufacture solid automobile tires. Corporators—H. E. Hayes, C. O. Derr and W. O. Johnson, Homestead, Pa.

Buffalo, N. Y.—Preston Fabric Co., The, under New York laws, with $100,000 capital; to manufacturer automobile and cycle tires. Corporators—C. Wesp, M. R. Evans; J. F. Preston, P. Wesp, Jr., and A. S. Collins, Buffalo.

New York City, N. Y.—American Demountable Rim Sales Co., under New York laws, with $50,000 capital; to manufacture and deal in vehicle wheels, rims and tire fastenings. Corporators—J. F. Paine, D. E. Sullivan, M. T. Loebl.

New York City, N. Y.—Motor Transportation Co., under New York laws, with $20,000 capital. Corporators—George S. Hayes, 1876 Broadway; B. H. Hayes, 527 West 143d street; L. Vance-Phillips, 647 Madison avenue, New York City.

Troy, N. Y.—Hygrade Rubber, Bicycle and Automobile Supply Co., under New York laws, with $10,000 capital. Corporators—Arthur W. Rood, Burdett and Hudson streets, Troy, N. Y.; Percey B. Whitmore, 206 West 114th street, and George M. Post, 471 West Twenty-second street, New York City.

Receiver Continues Duerr Business.

At a meeting of the creditors of Charles A. Duerr & Co., Inc., of New York City, held in the office of Lindsay Russell, the receiver, on the 14th inst., it was decided to let the receiver continue the garage business of the bankrupt for a period of sixty days. Meanwhile a further meeting of the creditors will be held to elect a trustee to succeed the temporary receiver.

Youse Introduces Taximeter Cabs.

E. S. Youse, of Reading, Pa., has started the Reading Taximeter Cab and Baggage So. It will operate from his garage.

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PATENT WAR ON MIDGLEY'S RIM

Repeated Efforts to Have His Invention Declared Unpatentable—Mell Scored by the Court.

That a vigorous and sustained warfare against Thomas Midgley's efforts to secure full and adequate patents on his well-known "Midgley" detachable rim has for some time been maintained before the Patent Office, is disclosed by a decision which has been handed down by the Court of Appeals of the District of Columbia. The decision grows out of an effort by Tod J. Mell to have Midgley's invention declared unpatentable, and is the result of a long and bitter fight, in which, apparently, every available technical subterfuge has been employed to prevent Midgley's patent coming to issue. Starting as an interfernce case, in which Mell endeavored to disprove Midgley's priority over himself in the invention of this form of rim, the essence of Mell's attack has latterly changed to an endeavor to establish the non-patentability of the rim at all.

In this, however, he has been supported only by one primary examiner, who dissolved the interference on the ground that the invention was unpatentable, but who was subsequently overruled by the commissioner of patents. Mell appealed to the courts against the commissioner's decision, but the resulting judicial opinion gives him little comfort and takes pains to score him for "seeking to rob his adversary of the fruits of his victory."

In the written decision by the court, Judge Van Orsdel recites the history of the case in part as follows:

This is an appeal from a decision of the Commissioner of Patents in an interference proceeding. The issue is involved in the following counts:

1. In a vehicle wheel, the combination with a main rim member and a removable side flange, said main rim member having a bead of rib extending toward the center of the wheel and a removable side flange having a similar bead or rib, of an expanding locking ring engaging both of said ribs or beads.

2. The combination with a wheel-rim, of a ring having an outwardly-extending and inwardly-turned flange at one edge to engage the tire, and extending across and secured to the outer surface of the rim, a ring having an outwardly-extending and inwardly-turned flange to engage the tire at the other side, flanges on the adjacent edges of said rings extending inward therefrom parallel with one side of the rim, and a severed ring engaging said flanges to secure the rings together.

The appellant, Tod J. Mell, filed his application for letters patent on December 19, 1905, and the appellee, Thomas Midgley filed his application on April 29, 1905. The interference was declared October 23, 1906. In his preliminary statement, Mell alleged dates subsequent to the filing date of Midgley. On the face of the record, Midgley was entitled to a judgment of priority. Confronted with this embarrassing situation, Mell filed a motion to dissolve the interference on the ground of the non-patentability of the invention in view of certain prior patents. This motion was denied by the primary examiner. The interference came on for hearing before the examiner of interferences, and a judgment of priority was rendered in favor of Midgley. Mell appealed to the board of examiners-in-chief, where the decision of the examiner of interferences was affirmed. Mell then appealed to the commissioner of patents, where the case was set for hearing on October 1, 1907.

Continuing, Judge Van Orsdel shows that on August 30, 1907, before the final appeal could come before the commissioner, a successor of the first primary examiner to pass on the case, requested jurisdiction of the interference for the purpose of considering the patentability of the issue. On each appeal, Mell had insisted upon the non-patentability of the rim in view of a prior patent to one Harris, to which he referred specifically in his first motion before the primary examiner to have the interference dissolved. The request of the primary examiner having been granted, the latter took Mell's view and declared the invention unpatentable, basing his decision on the Harris patent, in spite of the fact that this patent had been considered not only by his predecessor but by the examiner of interferences and the examiners in chief, when Mell's motion and appeals had come to them.

Midgley then petitioned the commissioner of patents to set aside the primary examiner's decision and to restore the case to the condition it was before, ready for a final appeal before the commissioner as to priority. This petition was granted and the case on appeal came for a final hearing, which on December 6, 1907, resulted in the commissioner affirming the decision of the examiners in chief and indicating both the validity and priority of Midgley's patent claims. Mell filed a motion for a rehearing, urging that the commissioner had exceeded his authority in setting aside the decision of the primary examiner. This motion was denied, whereupon he took his appeal to the court.

We are not required to pass upon the regularity of the action of the commissioner in this proceeding, the court explains. That question is not before us for consideration. The patentability of an invention is a question to be determined by the Patent Office and not by this court upon appeal in an interference proceeding. There are two reasons why Mell cannot be heard to complain of the order of the commissioner; first, because it was his appeal that was reinstated, and the order reinstating the appeal must be presumed to have been for his benefit, and, second, because he is not in a position to raise the question here presented. At the time the Commissioner made the order complained of, Midgley had a judgment of priority in his favor. Mell, in the fact of that judgment, was in no better position to raise the question of patentability than that of a disinterested party. It is well settled that a disinterested party is never in a position to raise such a question. The commissioner is charged with the duty of representing the public interests in the issuance of a patent, and, when he has declared an invention patentable, a mere disinterested party cannot question his judgment. This being true, the reference of the question of patentability to the primary examiner, so far as Mell is concerned, amounted to nothing more than a discretionary move on the part of the commissioner, presumably for the purpose of gaining further information, and, when he again took up the matter of the appeal from the board of examiners-in-chief, whether regular or irregular, a question upon which we express no opinion, he simply resumed consideration of the only issue before him in which Mell was entitled to be heard, namely, the priority of invention. Upon that question alone he passed, and that is the only matter before us for consideration.

All the tribunals of the Patent Office found in favor of Midgley. Mell failed to establish any date prior to Midgley's filing date, and there is no hypothesis upon which a judgment in his favor could be based. We find no reason to disturb the decision of the commissioner of patents. The judgment is, therefore, affirmed.

Cartercar's Organization Changes.

With its removal from Detroit to Pontiac, Mich., the Cartercar Co. has chosen a new board of directors, so that the board now includes William H. Dawson, A. G. North and H. G. Hamilton, of Pontiac. The latter is secretary-treasurer and general manager of the Rapid Motor Vehicle Co., with which the Cartercar Co. will be closely allied. R. A. Palmer, in addition to being secretary, will continue as general manager under the new arrangement, having acted in that capacity when the concern was under its old name of the Motorcar Co. The president, Frank T. Caughey, indicates that the new plant was acquired through an amalgamation with the Pontiac Spring & Wagon Works which formerly occupied the factory and the principal stockholders of which were willing to abandon the horse vehicle business to engage in automobile manufacture. The old Motorcar plant at Detroit has been sold to the Constantine Motor Car Co., of Constantine, Mich.

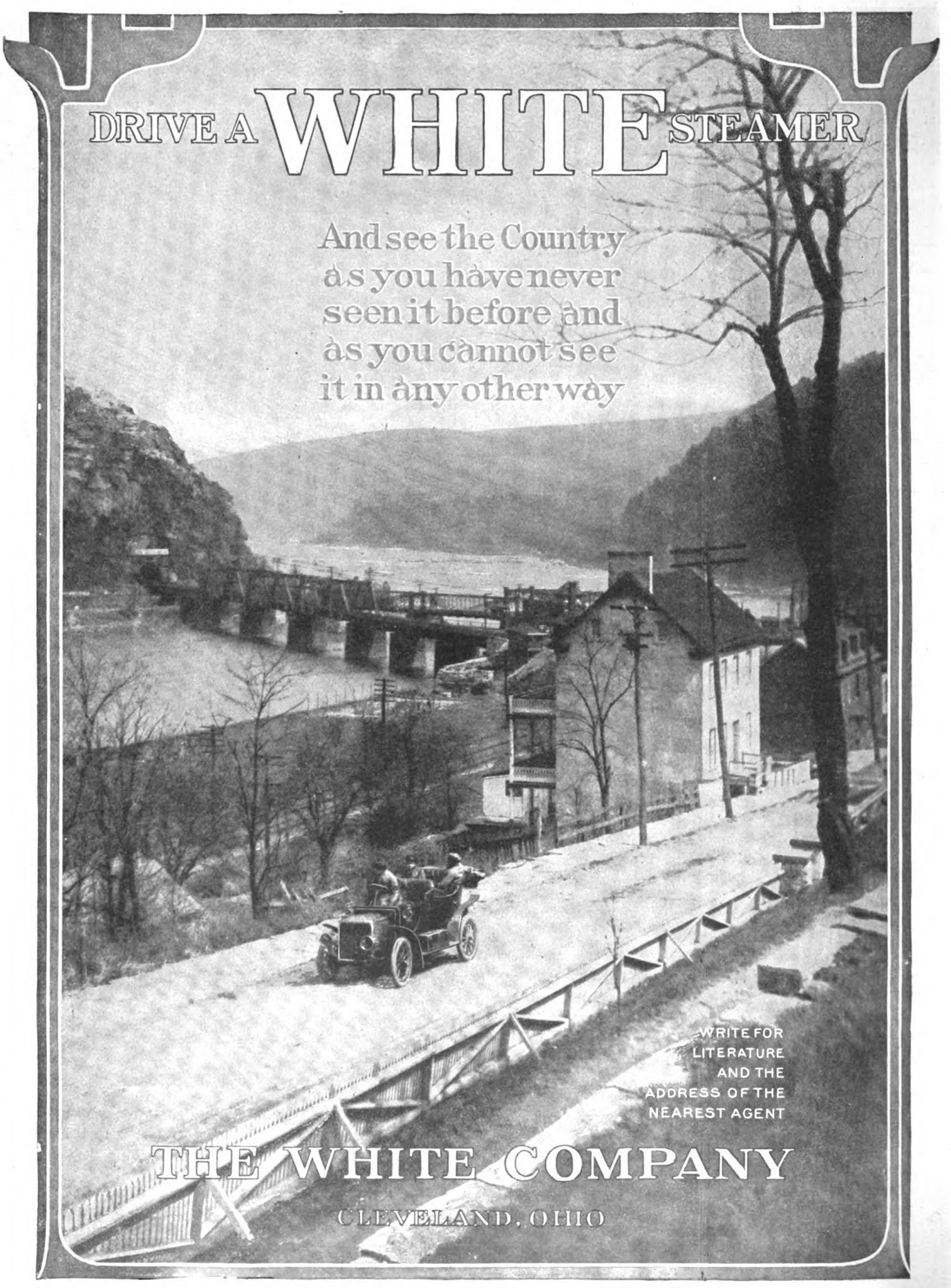
Hotel Man Heads a Cab Company.

After a legal fight, the Hotel Knickerbocker, of New York City, has succeeded in obtaining a cancelation of the permit of the New York Taxicab Co. to stand its cabs about the hotel, and wil hereafter be served by cabs provided by the Universal Taximeter Cab Co., a newly organized concern, of which James H. Stack, the manager of the hotel, is the president. Associated with Stack are John H. Naughton, treasurer, and John F. Mulgrew, secretary. Fifty cabs are being built for the new company in Boston, after which larger lots will be produced. The machines have 20 horse-power, four cylinder motors, and are of the laundaulet type.

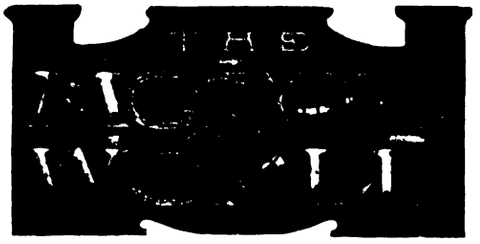
St. Louis Selects Show Dates.

St. Louis has decided on February 15 to 20 for its automobile show dates. The local Automobile Dealers' and Manufacturers' Association has secured the Coliseum building for the purpose.

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Diversity in Automobile Design.

It is now at least two years since it was agreed by nearly all the self-styled critics of the industry that the point of almost-finality in design had been reached, and that from that time forward, little in the way of novelty or important "trend" was to be expected. This was a true forecast in respect to the adaptation of the basic principles involved, but little more. For though the typical car of given weight and power has undergone small alterations during the last couple of years, and stands to-day, as it did at that time except in the matter of the minor changes which are annually reported, still the changing conditions of the market which have altered the status of such a car—no matter whether it be small or large, have served to change the method of its design and construction not a little. Indeed, the deadly sameness which was foreboded appears even further off now than it did when the forebodings first were heard —that is to say, considering the broad purpose of the machine, as well as its technical details.

Of the changes in market status, perhaps none of recent recognition is of more significance than that which is now in progress, in which the medium powered and small car is being elevated from its secondary position to one of primary importance in the field. For just this is taking place, rating importance in terms of numerical output. Built with an eye to the price-inducement feature, in quantities, and for middle-class consumption, the original medium and small sized car was not given the attention, neither by the draughtsman or the production engineer, which its real worth demanded. This fact was not recognized at first, and perhaps the abrupt decline in the popularity of the small runabout of a year or two ago, may have been influenced quite as much by this cause as any other. The establishment of thoroughly accepted lines of good practice, however, and the development of well tried rules of construction in the better equipped factories, made possible the production of machines of reduced size in which practically no sacrifice of structural excellence existed. The possibility of stagnation was thus warded off by the demand for miniature reproductions of the better known types of car, and that demand is growing at a stupendous rate just now.

Another evidence of the natural opposition to the establishment of stereotyped designs is found in the present status of the six-cylinder car. Not lending itself readily to the purposes of the very small car, this type of machine is necessarily confined to machines of a rather limited power range, or that upwards of the thirty rating. Hence the maker of six cylinder machines who desires to engage in the swift competition for supremacy in the hitherto despised small car field, must perforce return to two or four cylinder practice. In one notable instance, this has been done by a foreign maker whose previous abandonment of twin and quadruple types was the occasion of considerable stir at the time. As if to ward off any possible suggestion of stagnation, this particular maker now is advertising a line composed of no less than eight chassis of different powers, prices and sizes.

Thus the oscillations of the market, which, though controlable to a degree are by no means entirely under the sway of the builder, tend to induce corresponding changes in the structural features of the product. In every case the structural changes which they induce are influenced by the effects of previous swings of the pendulum. In no case does an apparent return to former practice entail an absolute repetition of discarded designs. At the same time, instead of the promised concentration of types and models to one or two accepted styles, as had also been forecasted, the general purposes of the available products continues to manifest a wide degree of variety. Finality is still a very long way off.

Motor Buggies and Their Problems.

During the brief period of its existance as a distinct type of automobile construction the high wheeled motor buggy has developed to a point where its makers have discovered—much to their surprise—that far from being the simple proposition it appears from the structural point of view, it entails sundry problems which are of tremendous importance in their effect upon the success of the vehicle. Superficially, it would seem that the mere adaptation of mechanical propulsion to the practically unaltered buggy type of vehicle should carry no serious difficulties in its wake. Actually it has been found by the more successful and studious of its adherents, that it presents a number of characteristics which are not to be found in either the carriage or more conventional automobile fields. In a word, the hybrid type, has evolved into an entirely new entity which though it retains the outward semblance of its forebears, yet possesses a number of important eccentricities of its own.

One of the most important of the problems encountered has been, and still is acknowledged to be that of retaining the adjustments of nuts and bolts. The combined influences of the short wheel-base, high-wheels and solid tires which are characteristics of the motor buggy, produce a far greater amount of vibration than is encountered in the more ordinary types of automobile. This, coupled with the fact that the lighter bodies used, require lighter spring suspension—this also tending toward the same result unless special provision is made against it—causes even the most trustworthy forms of locking nut to give way at times, and results in a rattling loose of all sorts of fastenings which apparently have no cause to be disturbed. In consequence of this unfortunate trait, the products of the more careless and hasty builders have not invariably fared as well as might

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have been expected, and in the heated rivalry which exists it is freely charged by several of the better known makers, that their less cautious competitors are responsible for no small injury to the prospects of the trade. At all events they acknowledge that the problem of properly insuring against rattling, is one of their most serious difficulties.

Similarly, the spring suspension is entitled to a greater amount of consideration than is invariably accorded it by these makers, while the racking effects resulting from the tractional and torsional strains of the power plant upon the carriage gear are not always appreciated to the full extent which they merit. Furthermore, it is found that where all these points are taken seriously into account and as wisely provided for, the resulting construction is much more massive than that of the conventional type, so that the really cautious maker finds himself in the unfortunate position of having to combat the arguments of his competitors against the adoption of "needless weight."

Thus without in the least questioning the utility of the buggy type of vehicle, or its undoubted strength in its own peculiar field, it is beyond question that the makers of that restricted class are struggling with a very critical situation just now, and one which bodes no good to their own interests unless they act with proper wisdom in the construction of their product. It has been proved that the ordinary carriage gear is not sufficiently staunch to withstand the stresses of motor propulsion for a proper length of time. Further, it has been found that special provisions are necessary in suspending the body and securing the fastenings of all parts if adequate life and mileage service are to be obtained. Recognition of these facts and proper steps to safeguard the product must become general to the trade, or the market will become surcharged with vehicles which are practically unsalable, and the demand for them will fall as suddenly as it arose.

"Style" and Emotional Influence.

Wide differences exist in many cases between what men say they want and what they really want, and it is well for the manufacturer endeavoring to cater to any large public demand to recognize the phenomenon. The deception attempted in this direction by buyers is often unconscious, resulting from some pose or affectation of the mind adopted for purposes of conforming to recognized standards of "common sense" or business acumen. Perhaps the most cited example of the disparity between expressed preference and actual selection is the universal instance of the dissimilarity of the woman verbally pictured as the ideal and the girl who gets the wedding ring, but the daily affairs of commerce provide equally convincing proofs of the fact that the ordinary human being is not so absolutely and abstractly utilitarian as he would have one believe, and that simple emotional influences exert great power.

Automobile buyers as a class assume an air of critical inquiry into the respective mechanical merits of the machines that are presented to their consideration, suggesting the idea that their ultimate selection will be made strictly on that basis. In a large measure it is true that the design and constructional features are gone into very thoroughly by the present day purchaser, the growth of technical knowledge and understanding having brought about this result. But mechanical excellence in proportion to price is not alone the determining factor in their choice, though it may be the preponderating one.

For the majority of people there is a distinctly emotional background and aspect related to the purchase of a motor car, and while prudence may suggest a careful reckoning of the cost and a cautious effort to insure a full value for the money expended, yet the governing cause of the purchase is usually an emotional one, either purely selfish or of sentimental origin, as the buying of automobiles from purely practical and economical reasons is, as yet, rather limited. But although the buyer may be getting a car to gratify his own fancy or to make his family happy, he cannot reasonably be expected to confess, even to himself, that what he really is after is as much splendor and show as his pocketbook can afford and his good taste will tolerate. Feeling safe in shopping among makes of cars bearing good repute, his examination of the mechanical features often is superficial, and while he may have distinct predilictions for a given number of cylinders and certain specifications concerning the seating capacity he desires, the less obvious features of the construction do not greatly concern him nor affect him in his course.

What in boyhood was his pleasure in bright red paint on his wagon has probably been modified to a desire for "style," the elusive and transient nature of the latter giving it possibilities for wide interpretation. If he be seeking a runabout he may incline toward a racing machne effect in factory gray with unfinished woodwork, mutely hinting at a costly and powerful chassis beneath the pronouncedly modest exterior, or his early affection for brilliant hues may still remain with him, so that the appeal of a touring car chromatically graduated to his liking is practically irresistable. Then again, such subtle forms do conceptions of "style" take that the mere presence of a famous maker's name on the hub caps, together with the incidental features of appearance proclaiming the car's distinguished origin, may meet his secret views as to what is desirable, whether he be familiar with the character of its construction or not.

Conspicuous examples exist of motor cars of the highest mechanical excellence that could not be sold because the maker refused to make any compromise to style, through a mistaken idea that the public would soon learn to make its choice without regard to externals. The public itself, with its show of serious investigation and its patter about engine theory, chassis structure, and the like, lent intellectural support to the belief, but the financial support went drifting away to where buyers saw the glint of brass and color and still had reasonable ground for confidence in the mechanism. Protestations by buyers that it is solely a superiority in efficiency and economy that can win them should not lessen the manufacturer's keenness in selecting for his models those combinations of curves, colors and fittings which will appeal to the sense of style and be suggestive of opulence, pleasure and speed.

COMING EVENTS

October 24, Los Angeles, Cal.—24 hours race.

October 24, Long Island—Vanderbilt Cup contest.

October 31, Philadelphia, Pa.—Automobile Club of Philadelphia's sixth annual tour for the Brasier Cup.

November 3, New York City—New York Automobile Trade Association's postponed hill climb, Fort George hill.

November 23, Savannah, Ga.—Automobile Club of America's 200 miles light car race.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles race.

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ALL READY FOR THE FOURTH VANDERBILT CUP RACE

Seventeen Entrants to Start—Two Withdraw at the Weighing-In—Danger Spots on the Course Made Safe—Practice Spins Promise Speed and Result in Only One Accident—Arrangements for Transportation and Accommodation of Spectators—Irish Volunteer Regiment to Assist Guarding Course.

In an array suggesting aptly the full panoply of war, the 17 contestants who are to dispute the fourth contest for the Vanderbilt Cup are encamped about the battle ground of next Saturday's tournament. During the past fortnight they have lived beside the course, trying out their cars in the early practice hours of the morning, adjusting and overhauling them by day. With their mechanics, assistants, supplies, parts, tools and accoutrements, they have been in arduous training for a race which takes on double significance because it is the first of its kind in two years, as well as the first in which the speed possibilities of the new Long Island Motor Parkway will be tested to the full by a large number of racing cars in unhampered flight.

The Long Island Sweepstakes race of September 10th furnished a promising introduction to this event, though the rates of speed then developed were not prodigious as racing speeds are rated. Later efforts in practice have proved that better times may be looked for in the Vanderbilt contest itself, while the number of cars in the race, together with the fact that they are all of high power, increases the probability of a good contest. From all that may be gathered of the cars, the drivers and the course, however, there is little basis for a prediction that excessively high running speeds will be attained, although ample prospects are held forth for stiff competition and a race full of incident.

Of the 17 cars which will start in the contest, nine are of American manufacture. Of the foreign contingent, three are German, three French, and one Italian. For the first time in its brief, but eventful career, the cup will become the subject of individual instead of team competition. This feature lends added zest to the affair. For with the disappearance of the team status, each entrant is thrown completely on his own resources, and no opportunity is offered for the schemes which have been worked to advantage in several of the great international races between representative teams where the competitors drove according to a preconcerted plan—some for speed, some for endurance only, and others with the object of taking advantage of their own particular skill in negotiating difficult spots in the course.

According to tradition, the race is scheduled to be started at daybreak. The cars will be dispatched at one-minute intervals and unless the first round proves an unfortunate one for Car No. 1, the Locomobile machine, with a clear road before it should pass the grandstand within three or four minutes after the departure of the last car from the starting line. As in the previous Vanderbilt contests, William K. Vanderbilt, Jr., will act as referee, despite the fact that this year he has a personal interest in the outcome of the race in the performance of his own car. Also, as in previous contests for the cup, Fred J. Wagner will slap each of the drivers on the back as he charges them with his energetic "Three-two-one-go!"

For those who desire to witness the race, ample provision has been made both by the Long Island railroad and the management of the Long Island Motor Parkway. On Friday night the grandstand will be illuminated by calcium lights, while the gates will be thrown open at midnight, when ticket selling will begin. Trains will be started from Long Island City and Brooklyn at all sorts of unearthly hours and will arrive in the same sequence in which they are scheduled to start—provided that the ever unreliable crowd furnishes the necessary



ROBERTSON, LOCOMOBILE



FLORIDA, LOCOMOBILE

Entrants and Order of Start.

No.	Driver and Entrant.	Car.
1	Florida, Locomobile Co.	Locomobile
2	Dennison, Knox Automobile Co.	Knox
3	Stricker, Robert Graves	Mercedes
4	Haupt, Chadwick Auto Co.	Chadwick
5	Luttgen, W. K. Vanderbilt.	Mercedes
6	Lytle, Clifford V. Brokaw.	Isotta
7	Ryall, James B. Ryall	Matheson
9	Kilpatrick, Hotchkiss Import Co.	Hotchkiss
10	Pouget, H. P. Whitney	Brasier
11	Patschke, Acme Motor Car Co.	Acme
12	Salzmann, E. R. Thomas Motor Co.	
15	Chevrolet, Matheson Motor Co.	Matheson
16	Robertson, Locomobile Co.	Locomobile
17	Strang, Paul Lacroix	Renault
18	Keene, Foxhall Keene	Mercedes
19	Gill, E. R. Thomas Motor Co.	Thomas
20	Bourque, Knox Automobile Co.	Knox

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CHEVROLET, MATHESON



RYALL, MATHESON

encouragement to the officials of the railroad.

For those who motor to the course ample parking arrangements have been made. Indeed, to assist in that stratification which is a necessity in all momentous gatherings of the sort three distinct grades of parking space have been provided by the thoughtful A. R. Pardington, general manager of the Parkway, and his assistants.

Class "A" spaces, are on the south side of the grandstand stretch, running down on that side of the stretch for more than a mile. Purchasers of these parking spaces may enter the course at any time of the day and leave at their pleasure. The privilege of this section is disposed of at the modest rate of $50 per car.

Class "B" visitors will be on the northern side of the grandstand stretch. Holders of parking spaces in Class B will be required to take their positions before the race starts and their cars cannot be moved until after the race is declared off by the referees. As being a less advantageous position in some respects, this section is let at only the modest price of $25 per space.

Purchasers of "general admission" tickets under the class "C" designation, however, which cost only $10, have the advantage of being able to select their own parking spaces, and may attain to the Class "B" privilege by the payment of an additional $15 if they so desire and are able to find spaces unoccupied. In order to reach either of the sections or the parking spaces beside the course and within the right of way, it will be necessary to go to one of the three toll lodges, which are located, respectively, at Bethpage, Massapequa and Meadow Brook.

In addition to these purchasable coigns of vantage, sundry private enterprises undertaken by the local residents along the highway sections of the course provide ample space at modest rental figures, while further opportunities to view the race are offered at the numerous intersections of the course with the many highways of that section.

The Automobile Club of Hartford, which will tour to the race in a caravan of 70 cars, more or less, has engaged a big parking space near the grandstand. The Long Island Automobile Club has a generous section in reserve for its members. The White, Stevens-Duryea, Peerless and Maxwell branches and agencies have all arranged for parking spaces for their customers.

For the safeguarding of the course provision has been made for the reinforcement of the Nassau County constabulary, the Pinkerton men and the special police of the Long Island railroad by a troop of the semi-military, 600 strong, in the Irish Volunteers. This doughty band goes into camp to-night (Thursday) at Hicksville, and on the morning of the race will be distributed over the course in generous numbers. It is noteworthy that this is the only body outside the State militia which is permitted to carry arms, though how freely they will be permitted to use their weapons in keeping miscreants from encroaching on the course has not as yet been announced.



SALZMANN, THOMAS

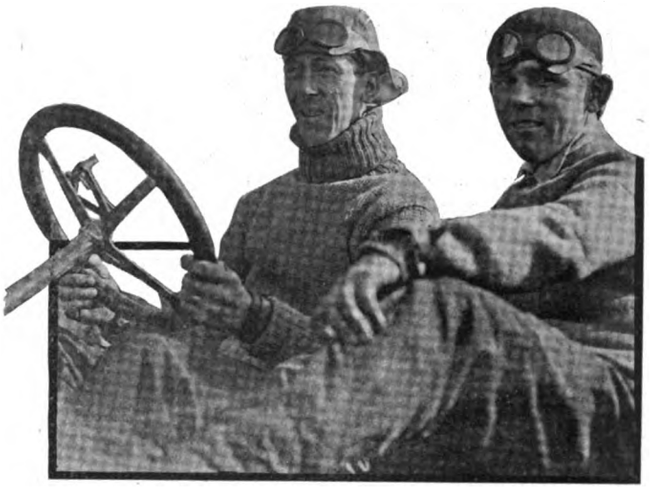


PATSCHKE, ACME

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DENNISON, KNOX



BOURQUE, KNOX

Of the course, considered as a source of possible danger to the contestants, it may be said that while no definite guarantee of satisfaction can be held out to them, those sensation seekers who are desirous of posting themselves at points which will be the scene of possible bloodshed may choose from a number of localities which the drivers and watchers who have been studying the course for several days or weeks have picked out as perilous.

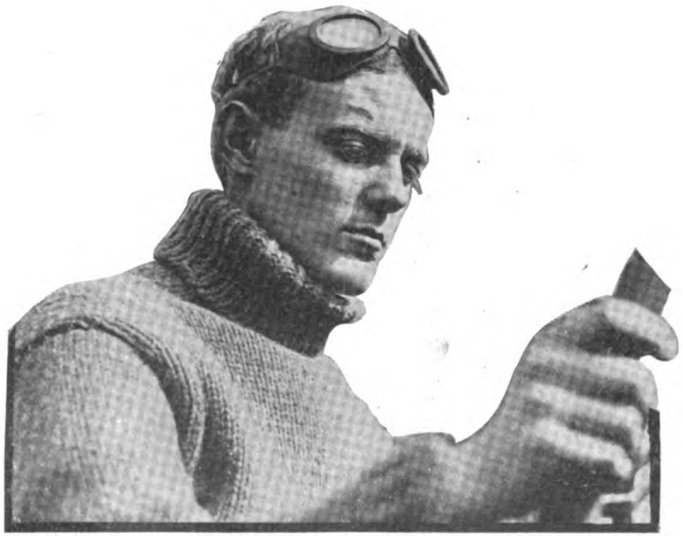
Of the two most conspicuous trouble zones—that at Jericho where the Oyster Bay road joins the famous Jericho turnpike, and the Colyers Corner turn—the latter has received the attention of the Cup Commission's road makers and has been rebanked during the week, while similar attention has been paid to the only grade crossing on the course, which is at Locust Grove. The Jericho corner, however, remains somewhat a menace, and has already been the scene of at least two accidents—one during the Sweepstakes race, and the other during the practice hours of last Sunday. Early this week it was reported to be in a badly rutted condition, though there is small doubt that it will be repaired before the commencement of the race.

According to a driver in former Vanderbilt contests who is at present in charge of one of the camps along the course, the most dangerous point which the drivers will have to consider is the grade crossing just mentioned. Here, although the danger from trains has been practically eliminated by the establishment of a signal system, the difficulties arising from a combination of a down grade, an "S" turn, and an oblique crossing of the rails, are thought to be far from conducive to the safety of the drivers.

In the course of the practice try-outs, which have assumed important proportions during the week, the usual foggy weather conditions have prevailed to a disconcerting extent. The usual quota of "clockers" have sat religiously upon the fence rails along the course, however, and some truly remarkable results have been obtained, though in one or more instances cutting of the course by drivers anxious to make a reputation was reported—this being a well authenticated method of obtaining publicity on previous occasions of a similar nature.

According to the unofficial reports which emanate from this source, George Robertson, who is to pilot the second Locomobile entry in the race, is ambitious to do at least one circuit in 18½ minutes, which would mean a speed of 78 miles an hour on the average. His best round up to the present, however, is reported to have been 20 minutes flat, though taken from a standing start. Ryall, who will handle the smaller Matheson, was credited with a 20:30 lap on Tuesday of this week, and incidentally has earned a reputation for reckless handling of his machine. Haupt, of the big Chadwick entry, also has been set down as careless of his own safety in his desire to gain high speed. Times of 21:00 and 20:40 are reputed to have fallen to his lot.

Among the drivers of foreign cars, Strang



HAUPT, CHADWICK



BASLE, KNOX

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is being watched with interest. He appeared for the first time on Tuesday morning, but did little or no spectacular driving. Kilpatrick also appeared on Tuesday with the Hotchkiss car, but failed to develop any remarkable showing. An incident of the practice on the same day was an impromptu bout between Florida and Robertson in the Locomobiles, and Keene in his Mercedes. The latter had something like a half-mile start over the others, it was said, but was headed after a mile or so of running. Shortly afterward, he withdrew from the course.

Of the other two Mercedes drivers, as Grand Prix racer, which was known to be over the limit of 2,644 pounds, and the B. L. M., which failed to appear. As most of the cars were built prior of 1907, they had little difficulty in squeezing through. In the case of the Acme, it was necessary to remove some of the gasolene from the fuel tank, while the Isotta had to be stripped of its tire irons before it was admitted. The larger Matheson also had to be lightened somewhat, it was said, as did the Chadwick. In several other cases it was found necessary to remove part of the fuel supply. The Renault and Robert Graves' Mercedes were permitted to weigh in this morning, though



KILPATRICK, HOTCHKISS



STRANG, RENAULT

Stricker suffered a setback on Sunday at Jericho when his car went wrong at the turn and crashed through the fence after being ditched. Murray, his mechanic, was seriously injured and the driver himself was so badly shaken up that he has not again appeared on the course, although it is said the car was not injured beyond the possibility of being repaired in season for the race. Luttgen in the third of the German delegation, was out on Monday, and on Tuesday was timed in 23 minutes for one lap.

Few changes have been made in the list of drivers since it was first announced a week or so ago. Basle, who had been nominated as the driver of the first Knox car, was replaced by Albert Dennison, who is a factory man. Florida, who had been nominated to drive the No. 1 Locomobile, was in question for a time, according to report, but apparently proved his ability to perform creditably, for his position in the race has since been confirmed. Some doubt which had existed as to who was to pilot the third of the Thomas entries, was, of course, removed, when the largest of the cars was withdrawn at the weighing-in.

Incidents connected with this formality, which occurred at the Garden City garage yesterday morning, resulted in the withdrawal of two of the candidates—the Thomno official statement was obtainable to the effect that either of the three would fail to compete.

Sidelights of a Big Contest,

Like the proverbial county fair, much of the interest of a popular event such as the Vanderbilt cup contest, hinges about the human element of the crowd. "Side shows" in the accepted sense may be lacking, but the spirit of the side show—the curiosity of the people on the one hand and the eagerness of persistent manipulators of the agile little pea and the elusive card to assuage it, on the other—is to be found in all its thrift and persuasiveness. Former Vanderbilt races have set a mark for enterprise of this sort, and the experiences of many at the recent Long Island Sweepstakes races go to bare out the probability that the forthcoming event will be in no way an exception to the rule. It is on this account that I issue solemn warning to all who intend to witness the race—particularly if they are to journey down to the Parkway by way of the Long Island Railroad—to be constantly on their guard. Otherwise they may fall heir to some such fate as was mine at the recent Sweepstakes. Which brings me to my tale.

Saturday morning I hastened to the Flatbush Station of the Long Island Railroad and bought a round-trip ticket for the "Grandstand," with the intention of taking the eight o'clock train out.

The man at the gate, when asked if the train was ready, (it was then 7:55) replied: "Naw, it don't go at eight. The race is a frost and the company is plum disgusted. They're going to send out the specials when they get enough people here to pay for the cost."

There were not enough people for the "company," and by the same token, there were not enough for the crooks. So we had to wait until eight fifty-five, and then the proper number had collected to satisfy the economical scruples of the train despatcher, and also to let the "gang" slip in and get busy.

By the time the conductor got to our car and the passengers felt for pocket books where tickets had been placed, the results of the first haul came to light, and no fewer than ten victims had been "touched." Several watches also went, and a few scarf pins changed hands. The train was supposed to be a through express, and indeed it passed Jamaica, but came to a dead stop at Floral Park, where we were ordered out for a change.

The order was well put, because it was there that several more wallets, watches and pins were changed from their rightful owners' pockets to those of the unrightful. By this time it might have been supposed that the little company that made up the train load would have been sufficiently "wise" to take care of what had not been lifted, but not so.

At the terminal streak of ashes, politely known as the station for the grandstand, the usual rush to get out of the cars occurred. There were less than two hundred on a train that would have accommodated a thousand, yet the two hundred pushed and pulled as they will when the big crowd goes on the 24th—and then what golden opportunities for the light-fingered gentry! For had the gang "lined out" the rush play

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they could not have done better than the people themselves. The thieves just worked them for another bunch of "leathers," "tickers" and "sticks."

The run to the Motor Parkway side is over grassy plains, go as you please. For no road or path has been made, and after covering a short half mile you haul up against a five-foot cattle wire fence, which bars further progress.

This wire is stretched along both sides of the track, separating you from it by several feet, which for the safety of the race drivers is the finest sort of thing imaginable, and it nearly served its purpose on that occasion. But it did even more than that, as my further experiences taught.

By way of carrying out the impressiveness of the occasion, the Long Island Railroad provided a squad of nicely uniformed men in brown and gilt, who were conspicuously labelled "Police;" and stationed them at Floral Park and at the grandstand station. Just why they were at either place—unless, indeed, for purposes of ornamentation—was not shown. For they did nothing but pose, could not answer a single question when asked, and actually played into the hands of the crooks. In fact, everything seemed to be favorable for the business of the bands who flocked to the race—even to the fencing arrangement.

One of the Sunday papers observed that "As usual, the gamblers were very much in evidence."

You bet they were in evidence. If the Sheriff of Nassau County and his band of comic opera police, with their pie plate badges, had been on to one-tenth part of the job, they would have known that the groups of shifty-eyed vultures who openly pursued their three card and shell games right under their noses, did so not for what they hoped to fleece from the public in the run of the game, but purely to get the crowd so interested that the pick-pockets could work.



LYTLE, ISOTTA

There was plenty and more for those "police" to do had they been out where the doings were, but they were not. The five-foot cattle wire fence heretofore mentioned, kept the crowd outside the grandstand, safely away from the cement motor way, and at the same time kept the "police" safely away from the crooks, so that even had one of the officers had a mind even to speak to one of them he could do so only through the meshes of wire. The police were all inside the fence, and as they probably had nothing to steal, the crooks remained on the outside. Thus you see the conditions in the neighborhood of the grandstand are ideal for the business of the underworld, and it will be prepared to take every advantage of the fact on the 24th.

The fake games of no fewer than fifteen bands were working all the time, within a radius of a city block, and right under the eyes of the police, who were so thick along the track that they almost held each other up. At one time when the hands of the clock neared noon a steady line of star badges glistened along a path trodden by the feet of the wearers from the track to the pie tent, and then the so-called Nassau police had to pass right through the "monte men" and "shellers" in order to reach their destination.

When one remembers the clam-like innocent faces of these arms of the rural law, it is difficult to think that "graft" could have reached them in the fastnesses of their happy, little Long Island homes. But a few remarks let fall by one lean and hungry wolf seemed to indicate that such might be the case.

A chap was walking away from a group that was trying in vain to pick "the red card," when another chap called to him:

"Hey, Beef, where you going?"

Beef said he had enough.

"Too many 'Bulls', he said.

"Bulls? Hell," said the other. "Get to work. Work when we have a bunch like this, and don't 'slough.' Don't you know we have protection?"

This word "protection" was heard several times thereafter. And whether there was anything of that kind or not, the place was overrun with all kinds of bad men, and they worked the comparative handful of people present to a finish.

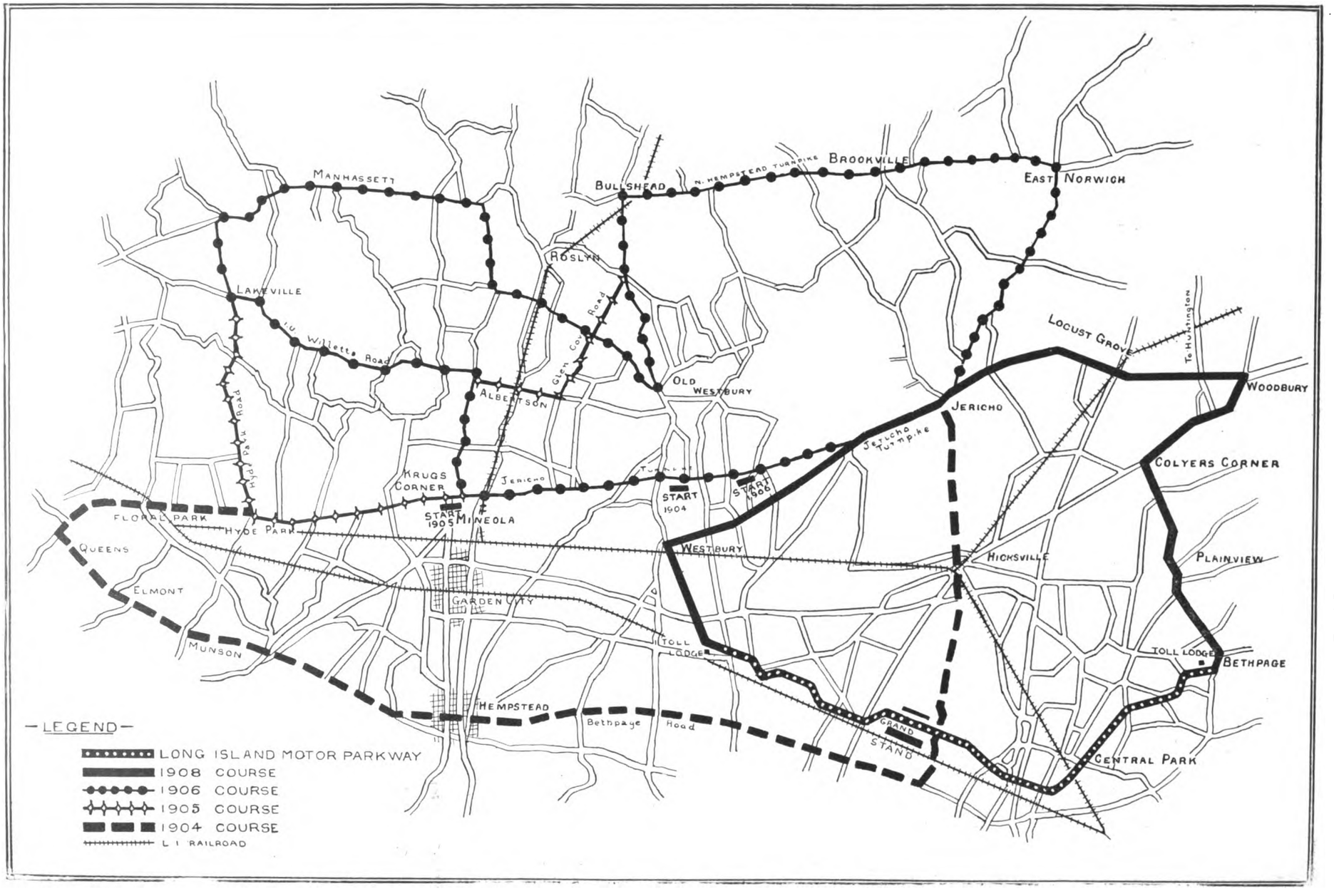
Further, they will be on hand bright and early on the 24th, and play every point from 34th street to the grandstand and return. For, mind you, this is a true story, and here is the secret of it.

The writer went through all he has recounted, and heard and saw a lot more, and on top of that the wolves "got him" at the last moment. At Jamaica, either a local hand, or part of the organized gang, was



KEENE, MERCEDES LUTTGEN, MERCEDES STRICKER, MERCEDES

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MAP SHOWING THE VANDERBILT CUP COURSE FOR 1908 AND THE COURSES OF THE THREE PREVIOUS CONTESTS.

The 1908 course, as shown in this map, traverses a section of Long Island lying largely outside and to the east of the sections traversed in either of the three previous years, when the race was held. It will be seen that it covers only a short stretch on the Jericho turnpike, as compared with the older courses, this stretch—extending westward from Jericho—being common to the four. The new course is touched at only one other point by any of the other courses, that of the year 1904 crossing at a point just east of the grandstand, which is located on the completed portion of the Long Island Motor Parkway. The length of the course is a trifle over 23.4 miles and the completed portion of the parkway is about 9 miles in extent.

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in waiting and got to work when the change of cars was being made by those passengers who were bound for Brooklyn instead of Manhattan. There was not much of a jam, but it was enough for the purposes of the talent, and when one after another in the Brooklyn bound train felt for their wallets, wail after wail went up, "I've been touched." And be it spoken in shame, my voice was one of the first to be upraised.—B. M.

The Cup and Its History.

The inauguration of the Vanderbilt Cup contest occurred in June, 1904, when William K. Vanderbilt, Jr., pioneer motorist and one time holder of the world's mile record, donated the trophy to the American Automobile Association. By the terms of gift it was to be competed for annually under the auspices of the American Automobile Association, or its successor, at a distance of not less than 250 miles nor more than 300 miles, and over the highway—it being provided that no part of the course was to be upon a track. Those eligible to compete were to be all clubs recognized by or affiliated with the A. A. A., or similarly recognized by the Automobile Club of France. During 1904 and 1905 it was specified that the race must be run within the United States. Subsequently it was provided that it might be contested in the country whose officially constituted representative then held it, practically at the option of the holding club.

By the terms of the "Treaty of Peace," signed September 17th, whereby the A. A. A. relegated all claim upon racing events of an international character to the Automobile Club of America, provision was made for an alteration in the status of the famous Cup from that of international to national significance. Although the exact terms of the "revised" deed of gift by which the donor confirms the arrangement have not been made public, it was stated that after this year, the two cups (the Vanderbilt and the Grand Prize of the A. C. A.) "are to be deeded to an independent racing association and are to be contested for annually, the Grand Prize Cup as the international trophy and the Vanderbilt Cup as the national trophy."

The Vanderbilt trophy itself is a magnificent piece, standing about two and one-half feet high, and measuring eighteen inches across the brim. On one side of the bold relief is shown the figure of a racing car in full flight upon a beach course, the figure bearing a suggestive likeness to the donor himself seated in the car with which he captured the old world's record of 39 seconds for the mile. on the Ormond sands. Upon the other side is a legend of presentation mentioning the American Automobile Association as recipient and stating that the trophy is to be competed for annually "by cars under 1,000 kilos." Save for a heavy laurel wreath surrounding the upper part of the bowl and a little fine beading around the base, the cup is bare of ornamentation and elegant in its simplicity. Three times contested, it has been won as many times by representatives of France.

The 1904 race, which was run on October 8th, saw 16 starters composed of four teams representing the United States, Italy, France and Germany. Thre were five American cars, one Italian, six French and four German cars. No elimination trials for an American team were necessary. George Heath, an American, driving a 90 horsepower Panhard, as a member of the French team, won the cup for France, after covering the 284.4 miles course in 5:26:45, at an average speed of 52.22 miles per hour. Albert Clement, of the French team, piloting a Clement-Bayard, was second and Herbert H. Lytle secured a place for America by winning third place.

This initial contest for the cup was run in 10 laps over a 28.4 miles circuit, starting at Westbury and running in an approximate triangle with Jericho, Plain Edge and Queens as corners, the turns of which were all taken "right handed." Heading eastward from the grandstand along the Jericho Turnpike to Jericho, the cars switched southward to the Bethpage Road, turning in a westerly direction towards Hempstead, where was located a control. From Hempstead the route was northwest to Floral Park, and back into the Jericho turnpike. In this event, Tart, in a Panhard, made the fastest lap in 24:04, at a rate of 70.9 miles per hour.

The second contest for the cup brought a sufficient number of entries to necessitate an elimination race to select the American candidates. This was held September 23, 1905. Bert F. Dingley, with a 60 horsepower Pope-Toledo was the winner of the trial, with Joseph Tracy, in a 90 horsepower Locomobile, second. Robert Jardine, in a 40 horsepower Royal, Frank Nutt, in a 50 horsepower Haynes, and Montague Roberts, with the 60 horsepower Thomas, also finished creditably. For these, however, the racing board, by virtue of its self-constituted right, substituted Lytle, with a 75 horsepower Pope-Toledo, Walter White, with a 40 horsepower White Steamer, and Walter Christie, with his 120 horsepower front driven racer. All of these had broken down in the elimination, but the board's decision was unalterable and they were placed in the contest proper which occurred on October 14th.

America, France and Italy were represented in that event with five cars each, while Germany had but four. France again triumphed, when Hemery, in an 80 horsepower Darracq, went around the 10 laps or 283 miles of the course in 4:36:08, his time being nearly an hour better than that of Heath of the previous year. Hemery's average speed was 61.43 miles per hour.

It was on this occasion that Lancia gave Hemery a great race, the former driving a 100 horsepower Fiat, doing the sensational work of the day, when he covered the 28.3 miles course on one lap in 23:18, the fastest round of the contest.

Heath, in his Panhard, running as a member of the French team, again scored second place, and Tracy, again driving the Locomobile, was third.

The race started at Mineola and ran "left handed" along the Jericho Turnpike, bearing northwest at Jericho to East Norwich, then westward to Bull's Head; down the Glen Cove road to Albertson and along the Willetts road to Lakeville; thence back to the Turnpike.

Like the 1905 contest, that which took place in 1906 was preceeded by an elimination to determine the American candidates, which was held September 22. This event was won by Joseph Tracy, driving the 90 horsepower Locomobile, in 5:27:45, with Le Blon, driving a 115 horsepower Thomas, second, and Walter Christie, with his 50 horsepower front wheel drive car, third. These, with Harding, who drove a 60 horsepower Haynes into fourth place, and Lawell, who was fifth, with a 110 horsepower Frayer-Miller, comprised the American team.

The Darracq was victorious a second time in the final event, when in a hotly fought battle, Wagner drove to another triumph for France in 4:50⅗, at an average speed of 65.13 miles an hour. Lancia, the Italian, in the 120 horsepower Fiat, gained second place; with Duray, at the wheel of a 120 horsepower DeDietrich, third. Joseph Tracy, in the Locomobile, made the fastest lap of the day when he covered one circuit of 29.7 miles in 26:20⅘—America's only solace.

The course, which totalled 297.1 miles, covered much the same ground as that used in 1905. Starting at Westbury, it retraced the route of the previous contest around to Bull's Head turn, at which point it ran south to Old Westbury, turning at a forbidding "hairpin" corner. Thence it threaded northeastward to Manhassett and around to Albertson; then back to the turnpike at Krug's Corner.

The winners of the three previous events, their net times and average mileages per hour, are shown in the following table:

TABLE SHOWING RESULTS OF PREVIOUS VANDERBILT CUP CONTESTS

Year.	Winner.	H.P.	Car.	Length of course.	Winner's net time.	Winner's Av. m.h.p.	Fastest lap of race m.h.p.
1904	Heath	90	Panhard	284.4	5:26:45	52.22	70.9
1905	Hemery	80	Darracq	283.0	4:36:08	61:43	66.9
1906	Wagner	100	Darracq	297.1	4:50:10⅗	65.13	67.3
†1908	Lytle	70	Isotta	234.6	3:39:10	64.25	66.4

† Long Island Sweepstakes race over 1908 Cup course.

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SEALED HOODS AND SHORT TALKS

Cleveland's Novel Three Days Reliability Contest—Open Air Oratory for the Benefit of Rural Audiences.

Eating some of the finest quality dust, bumping many hundred of the most prominent Ohio bumps in the vicinity of Cleveland, nine contestants started out on Wednesday, October 14, on the Cleveland Automobile Club's 470 miles, three days' sealed bonnet reliability run. The contest was held over three different circuits, starting each morning at the Forest City and returning there each evening after having covered between 145 and 170 miles. Of the doughty nine that embarked upon the three-lapped expedition, only four completed the run with perfect scores. These were: C. G. Bleasdale, driving a Maxwell; C. S. Carris, at the wheel of a Franklin, the only air-cooled car in the run; George Sperry, with a Thomas, and E. E. Ernest, Garford. This quartet acquitted itself with honor, for the run was strenuous indeed and the rules very strict. At the finish, every one of the cars, especially those claiming clean scores were put through the usual minute examination by the technical committee, every nut and bolt receiving the marked attention of the committee, nothing being slighted.

In one respect, this test was quite different from all others of the sort, for at the various towns encountered the cars were halted for ten minute intervals, while eloquent speakers, who were carried along, delivered orations on various pertinent subjects to the gathered population. All of the silver-voiced speakers received "perfect scores." The final report of the committee was as follows:

Perfect Scores.

	Per cent.
C. G. Bleasdale, Maxwell	1,000
C. S. Carris, Franklin	1,000
George Sperry, Thomas	1,000
E. E. Ernest, Garford	1,000

Cars Penalized.

C. R. Wedler, Garford Roadster	972
H. S. Moore, Stoddard-Dayton	943
J. H. Stickney, Chalmers "30"	791
S. Emerson, Chalmers "40"	†
Grant Johnson, Jackson Roadster	‡

†Withdrawn third day.
‡Withdrawn second day.

Figures in the gasolene consumption test were arrived at by a process of higher mathematics to show the pound miles per ounce of gasolene used, considering the weight of the car, the distance traveled and total gasolene used. The showing was as follows:

	Pound miles.
C. S. Carris, Franklin	338.2
H. S. Moore, Stoddard-Dayton	319.5
George Sperry, Thomas "6-40"	299.5
C. R. Wedler, Garford Roadster	286.7
E. E. Ernest, Garford Touring	281.5
J. H. Stickney, Chalmers "30"	257.7
C. G. Bleasdale, Maxwell Roadster	249.2

The cars checked out from the Hollenden early Wednesday morning and started to thread their way on a 162 miles round trip through Elyria, Ashland, Norwalk, Huron and Vermilion, at which towns the caravan paused to allow Hon. H. S. Vail to give the assembled multitude an interesting and educational disquisition on the marvelous progress of the automobile industry during the past ten years and the wonderful possibilities that the future held in store for it. He predicted an early arrival of the day when the automobile would be found desirable and useful by the great masses of American farmers. The efforts of automobile clubs to bring about fair play between motorists and farmers, and the endeavors to make the State build good roads that would be of benefit to all were explained.

This feature added to the interest of the tour in many ways, although some of the drivers grew restless when forced to wait at each control town while the lecture was being delivered. Between stops a fast schedule was maintained, forcing the cars to go as high as forty miles an hour in some stretches to make up for the time lost on rough roads. In fact, contestants complained that the time schedule calling for a 20 miles speed was entirely too severe.

Only one car was penalized on the initial journey. This was the Stoddard-Dayton, driven by H. S. Moore, who also laid the confetti. He was penalized 53 points for breaking several seals while trying to locate ignition trouble, which he later found was caused by a loose terminal screw in the coil box. A slight twist was all that was required to set the car in commission again. The intrepid Barney Oldfield's six cylinder Stearns car carried the officials.

During the second day's run, covering a triangle with Akron and Youngstown as corners, four more cars lost their perfect scores, leaving only a quartet of contestants with unblemished slates. C. R. Wedler's Garford, the only amateur entry, lost 14 points for breaking hood seals to ascertain why the engine stalled. The trouble was located in the radiator, which had gone dry. It was necessary to give it a drink twice between controls, which caused two points penalty each time. C. S. Carris, the Franklin driver who has been distinguishing himself by making perfect scores in various endurance runs, was penalized 12 points for taking on extra oil. Later, however, this was disallowed. Grant Johnson's Jackson was obliged to hoist the signal of distress when a roller bearing went wrong at Youngstown and was unable to get back to Cleveland that night. Next to Johnson, J. H. Stickney, driving the Chalmers "30," was hardest hit, when faulty spark plugs caused him a loss of 209 points.

Sam Emerson's Chalmers-Detroit "40," E. E. Ernest's Garford, the Thomas, driven by George Sperry, and the Maxwell, with C. G. Bleasdale at the wheel, came through with their tallies of 1,000 points intact.

Harry S. Moore, whose confetti car lost points on the initial trip, distinguished himself by falling into the clutches of the law at Akron. He was arraigned on two counts—throwing confetti upon the public highways and "driving at the rate of sixty miles per hour." Moore disputed the local chief of police and declared he was going considerably less than thiry-five miles an hour. He was allowed to continue in the contest when a citizen of Akron vouched for his subsequent apearance in court.

Senator P. W. Ward, W. F. and Harry Bonnell took up the prophet's mantle at each hamlet in which the tourists paused, in accordance with the grand educational campaign that the Cleveland club is promoting. At Youngstown the local automobile club gave the dusty ones a dinner, for which no little appetite had been created.

The third and last day of the 470 miles run saw four contestants finish with perfect scores. Only seven cars started on this last leg through Chardon, Painesville and Ashtabula and back to Cleveland, and three of these lost points. The Garford roadster, amateur entry, driven by C. R. Wedler, was penalized again for filling its leaky radiator; H. S. Moore's Stoddard-Dayton lost four more points for one minute's work on the accelerator mechanism, while Sam Emerson's Chalmers "40," which had hitherto had an unbroken tally, was put out of the running by its fan ripping off and punching a hole in the radiator. When the contest committee held its final meeting, it was decided to remove 12 points penalty against Carris's Franklin for taking on oil between controls, for the simple reason that it had been ascertained that other contestants had done the same thing at various times through a misunderstanding of the rules. Sundry oil and brake tests, which were to have been the wind-up of the contest, were eliminated.

New Orleans Gets the Racing Fever.

The motor racing microbe has gone as far south as New Orleans, La., and on November 7-8 a race meet is to be held at the local horse track. Lewis Strang is promised as an attraction for the event, but whether he will choose to grace the city before his appearance at Savannah some days later, remains to be seen. Strang's name, by the way, is being used to boom numerous meets just at present. Atlanta, Ga., had him booked to appear at a track event there on the eve of the Long Island Sweepstakes date.

Park Roads Uninjured by Race.

After the Philadelphia automobile race in Fairmount Park, on the 10th inst., Chief Engineer Vodges was surprised to find that the park roads had suffered very little damage from the high speed, even at the turns. A few men and a steam roller were able to put the surface in good shape again in short order. The bond of $2,500 filed by the Quaker City Motor Club to cover the cost of the repairs was more than ample.

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RIVAL CLUBS IN TEAM CONTEST

Chicago Athletic Association Defeats Chicago Automobile Club in Reliability Run—Only Amateurs Compete.

In what was heralded as the first competition of its kind ever held in this country —an inter-club contest—the Chicago Athletic Association met and defeated the Chicago Automobile Club by a score of 79 to 732 on Thursday last, 15th inst. Added distinction was gained by the contest from the fact that it was purely an amateur affair and was carried through without regard to trade interests of any sort. Long standing rivalry gave rise to the challenge to a team match which was issued by the Athletic Association. Upon its acceptance it was agreed that the representation should be made up of ten cars on each side. In the eleventh hour, however, four of the challenging team's entrants withdrew, leaving but six champions in the field. It was decided on this account to arrange the penalties on a pro rata basis. This served to enliven the task of the technical committee and also to obscure to a certain extent the full effect of the happenings on the 100-miles Elgin-Aurora circuit, pending their digestion by that august body.

When the final report appeared it was learned that three of the six starters in the "Cherry Circle" team of the athletic club had been penalized in small amounts, while six of the automobile club's representation had been mulcted in larger amounts. The statistical outcome of the calculations was as follows:

Chicago Athletic Association	Penalizations.
S. W. Ham, Locomobile	Perfect
C. T. Knisely, Premier	Perfect
C. C. Ireland, Stevens-Duryea	Perfect
F. W. Wentworth, Rambler	1 point
W. K. Cochrane, Stod-Dayton	25 points
W. K. Young, Thomas	53 points
Total points lost	79

Chicago Automobile Club.	
Bert Nash, White	Perfect
F. W. Gethro, Stevens-Duryer	Perfect
R. Tarrant, Jr., Stod-Dayton	Perfect
N. H. Van Sicklen, Apperson	Perfect
Carroll Schaffer, Stevens-Duryea	Perfect
T. P. Henderson, Studebaker	115.2 points
W. A. Egemann, Rambler	600 points
J. H. O'Hare, Thomas	1.8 points
C. E. Gregory, Thomas Forty	15 points
R. H. Colby, White	Perfect
Total points lost	732

The management of the contest was rather lax, inasmuch as the rules set down were none too closely followed, while their enforcement was not carried out in strict accordance with the prearranged plan. Thus, several of the drivers departed from the regular confetti-laid roads, and others replenished fuel and water supplies without regard to the restrictions imposed upon them. Such infractions, however, were excused in some instances, owing to the recognition of a "misapprehension" on the parts of drivers or observers as to the proper course to pursue. The inevitable outcome was dissatisfaction, loudly expressed by those whose lack of understanding of the rules was not accepted at full value by the referee.

Scarcely had the caravan started on its way, when misfortune clipped the wings of W. A. Egemann's Rambler, running under the Automobile Club's colors. While skimming along Michigan avenue, the car skidded on the wet asphalt into a curb and smashed a rear axle and wheel. The driver cheerfully telephoned for another car, a Rambler roadster, and when he received it, set out in pursuit of the rest of the pack. This caused a loss of 600 points to the score of the Chicago Automobile Club. It was a severe shock to the other members of the team, and, coupled with the smash-up of T. P. Henderson's Studebaker, almost caused despair. The second accident occurred on the out-going trip on Milwaukee avenue, when the driver attempted to swing around a loaded truck, skidded on the car tracks and broke a wheel. Like Egemann, he refused to withdraw, and telephoned for a new wheel, replaced the broken one, and started out to catch the others. This cost the automobile organization no less than 115.2 points. The other penalizations imposed upon this club were not so severe. J. H. O'Hare, driving his Thomas Flyer, lost 3 points for needlesly stopping for water between controls, "under a misapprehension," and C. E. Gregory's Thomas "40" was assessed similarly 15 points.

The opposing team suffered less keenly. Witt Cochran, driving a Stoddard-Dayton, dropped 25 points for stopping his motor while checking in; W. K. Young, handling a Thomas "Six," lost 53 points for syphoning gasoline from one tank to another, and F. W. Wentworth's Rambler had its perfect score chipped by one tiny point for adjusting a spark coil. Cochrane protested his penalization, claiming that he had already checked in to the best of his knowledge before he shut down his motor.

There was very little tire trouble on the run, although the bad stretches in certain parts were enough to worry any tubes. A large staff of speed sleuths were lying in wait for "picking" in the vicinity of Melrose Park, but the course was so arranged as to avoid these paths and fool those who had looked for a profitable day.

The route followed was through Itasca, Roselle, Dunning, Wooddale and Bensonville to Elgin. After checking in the teams set out for Aurora, where dinner was taken during a control of one hour.

In consequence of the success of this first venture the members of the association are now anxious for a longer and more strenuous run. It is planned to make the contest an annual affair, which another time, may take the form of a sealed bonnet run.

TREE CLIMBING STUNT AT LENOX

Not on the Card, but Knight's Car Does It —Bourque the Kingpin at Church Hill Climbfest.

In the course of a hill climbing contest held at Lenox, Mass., on Wednesday, 14th, inst., Floyd Knight, in a six cylinder Stillson car, not only mounted the hill at a goodly rate of speed but also climbed a stately white birch tree, stripping it of much of its daintily tinted autumn foliage. Knight did this not from choice, nor to damage property, but in order to avoid a collision with William Tolhursts's car. Happily no one was hurt. Shortly after this occurred, William Bourque, in taking the hill with a Knox, tried to take a few more things with him. He ripped up a four-inch iron guide post with its concrete foundation, roots and all, and kept right on without stopping. Upon a second trial with the same car, having eliminated all obstructions, he shot up the hill and won the event, a free-for-all.

The climb was held by the Lenox Protective Automobile Association and the nine-tenths mile course up Church hill and Aspinwall Park, with the finish line at the Aspinwall Hotel, had a grade that varied from 9.15 to 12.5 per cent., with three sharp turns. The event was well attended by local enthusiasts who numbered about 4,000. Three motorcycle events preceeded the automobile program.

Irving D. Sisson won the event for cars of 20 horsepower and under in 1:59, with Fred M. Smith and Edward C. Knight in Fords, second and third. Bourque took the 20-40 class with his Knox in 1:34; O. R. Hutchinson and Lester Phillips in second and third places.

In the class for big stock cars of from 40 to 60 horsepower, William Swan shot up the course in 1:38⅗, beating the time of Knight's Stillson by 9 seconds. Swan ran second to Bourque in the free-for-all.

The summaries:

Cars of 20 horsepower and under—Won by Irving D. Sisson, 18 horsepower Buick; second, Fred M. Smith, 15 horsepower Ford; third, Edward C. Knight, 15 horsepower Ford. Time, 1:59.

Cars from 20 to 40 horsepower—Won by William Bourque, 38 horsepower Knox; second, O. R. Hutchinson, 26 horsepower Pope-Hartford; third, Lester Phillips, 30 horsepower Pope-Hartford; fourth, F. A. Knight, Buick; fifth, James E. Crabe, Berkshire. Time, 1:34.

Cars from 40 to 60 horsepower.—Won by William Swan, Stearns; second, F. A. Knight, Stillson. Time, 1:38⅕.

Free-for-all.—Won by William Bourque, 38 horsepower Knox; second, William Swan, 30-60 horsepower Stearns; third, Stuart H. Clapp, Berkshire. Time, 1:19.

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CUDAHY'S MISPLACED CONFIDENCE

Millionaire Packer's Big Car Beaten in Match at Kansas City—Burman Captures Sensational Free-For-All.

Out in Kansas City, where the name of Cudahy is a mighty power, 10,000 persons or more, turned out on Saturday last, 17th inst., to watch the automobile races on Elm Ridge track, held under the auspices of the Kansas City Automobile Club, and more particularly to witness the J. P. Cudahy challenge race. The millionaire beef packer offered to pit his 50 horse-power Welch against any privately owned car in Kansas City, at any distance, "for money, marbles or chalk." Two owners picked up the gauntlet—James B. Porter, with a Chalmers-Detroit "Bluebird," and Frank J. Dean, who banked on his Packard. If some Missouri "showing" was wanted by Cudahy, this pair was ready to give demonstrations, as they affirmed.

Cudahy was enlightened shortly after the three cars started on the ten miles whirl. The Packard, with John Clancy at the wheel, took the lead in the first mile, with G. W. Morgan in Cudahy's Welch following, and the "Bluebird," driven by Karl Schnarr, last. In the second mile, the Bird chirped as it flew past Morgan in front of the packed grandstand, and took second place, holding it until the fourth mile. Then, when Schnarr opened up the throttle and the Bird began to sing louder and flap its wings with more vigor, it darted into first position, leaving Morgan at the tail end of the line. Soon the latter pressed his Welch past Clancy into second place, however, and the cars finished the race in that order, Schnarr winning by a fair margin in 11:22 4-5. At no time during the sprint were the cars more than 100 yards apart.

Mile after mile was reeled off at a 60-mile-an-hour rate in the 50 miles, free-for-all, an event that was captured by Robert Burman in a 40 h. p. Buick, in 59:59. The cars spun around in a heavy cloud of dust and all but one of the ten contestants, a Buick, driven by Glen Breed, had trouble of some sort. One of the cars tore off a good-sized piece of fence while skidding a trifle on a turn, but kept on its way. Dr. C. H. Carson was second, with a 40 h. p. Locomobile, with R. H. Collins's Buick third.

A novelty was introduced in the form of a half-mile obstacle race, open to electrics driven by women. Six contestants faced the starter, and the race soon became a real comedy affair. Two of the drivers did not heed the instructions to stop at the half-mile post and await further advice about taking the obstacles, but kept right on, with the result that they tried to pass through the narrow maze of barrels simultaneously, much to the delight of the shouting crowd. The cars were then re-started and the ladies at once encountered further difficulties before they finished the course. Mrs. Joseph H. Wittman, in a Pope-Waverly, won the first prize, which was "the dearest, sweetest hat," valued at $150. She negotiated the tantalizing labyrinth without touching any of the barrels in 3:08 1-2, disproving the assertion that women cannot aim straight. The best time of the event was made by Mrs. F. E. Gloyd, with a Woods, in 3:08, but she tipped over a barrel, which spoiled her chances for the fascinating trophy.

Gus Seyfried, in a White Steamer surprised the people by winning the 10 miles race for the Board of Trade cup, in 10:47, the popular opinion having been that one of the higher-powered cars would bag the trophy, as in the preliminary heat the White only got second place. Seyfried, however, managed to show the field his dust in the final—the nearest to approach him being A. O. Brooks's Stoddard-Dayton, which scored second, while Burman took third with his Buick. There were nine competitors in this event, and the heats were warmly contested.

Guy Morgan drove a lone race with Cudahy's Welch, in a five miles stock car event, the only other contender being George McEntire, who dropped out with his Chalmers-Detroit, in the first mile.

Charles Levendoski, guiding a Maxwell, won a five miles event for stock cars costing $2,000 and under, in 7:24, over R. C. Greenlease (Cadillac), who was second. Robert Burman, in an 18 h. p. Knox, distanced George McEntire (Chalmers), for third place.

Two heats of a five miles free-for-all were run, each of which gave first place to White cars, driven by Ralph Baker and Gus Seyfried. A Buick, driven by Burman, and a Pilain, handled by V. C. Snyder, also qualified, but darkness fell so quickly that the final heat could not be run.

Governors to Discuss Uniform Laws.

Lobsters, automobiles and trees are to engage the governors of all the New England states in a conference which is to be held in Boston right after the election. A whole day has been set aside for discussing the possibilities of uniform automoble laws for Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut, together with a consideration of plans for improved highways and the establishment of interstate trunk lines or thoroughfares running along logically and carefully prepared routes from one large New England center to another. All the meetings will be open to the public, while the participants will consist of the governors themselves together with their lieutenants, the attorneys general, the presidents of the New England senates and the speakers of the house of representatives, the congressmen and United States senators of the states, and various invited citizens.

TWENTY ENTRIES FOR SAVANNAH

America, Italy, France and Germany to Compete in Grand Prize—Try-out to be Held on the Motor Parkway.

Following almost uncomfortably close upon the heels of the Vanderbilt Cup contest for its own advantage, the inauguration by the Automobile Club of America of the Grand Prize race which it is planned to develop into the great international event of the future gives promise of as good an assemblage of racing material as ever has been seen in this country. Although entries do not close until Nov. 1, the extended date, 20 cars have already been enrolled, of which five constitute the American representation. Three other countries also are represented, in the teams of Italy, France and Germany, each of which at present numbers five cars.

Grand preparations are being made by the A. C. A. and its local ally, the Savannah Automobile Club for the Thanksgiving Day event and its curtain raiser—the International Light Car race—which is scheduled for November 25th, the day previous. Aside from the elaborate arrangements which are being made for the entertainment of the expected hosts of visitors, the highways comprising the 25 miles Chatham County circuit are being graded and banked, and in one instance an entirely new road is being constructed for the "circuit within a circuit" for the small car race, which is to occur on November 25—the day preceeding the Grand Prize itself.

A number of the foreign drivers who are to participate in the race are either on their way to this country, or will start within a few days. Prior to their adjournment to Georgia, it is planned to give them an opportunity to test their machines on the Long Island Motor Parkway. Saturday, October 31, has been set as a tentative date for this try-out, which doubtless will serve as a good advertisement of the race itself. The list of entries for the Grand Prize, as at present constituted, is as follows:

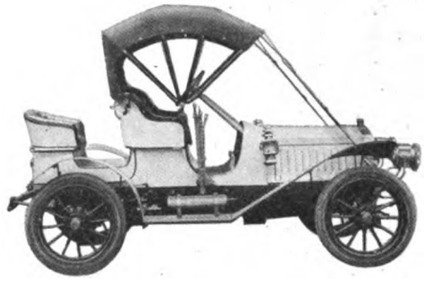
Locomotive	L. T. Bergdoll
Matheson	Louis Chevrolet
Acme	Cyrus Patchke
Lozier	Harry Michenor
B. L. M.	Thomas Williams
Fiat	Louis Wagner
Fiat	Felice Nazzarro
Fiat	Ralph De Palma
Itala	Henri Fournier
Itala	Alexandre Cagno
Benz	Victor Hemery
Benz	Reve Hanriot
Benz	Fritz Erle
Mercedes	Poegge
Mercedes	Salzer
Bayard Clement	Hautvast
Bayard Clement	Rigal
De Dietrich	Duray
Renault	Francois Szisz
Renault	Lewis Strang

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THE MITCHELL MODELS FOR 1909

Additional Particulars of the Offerings for the Coming Season—Some of the Noteworthy Improvements.

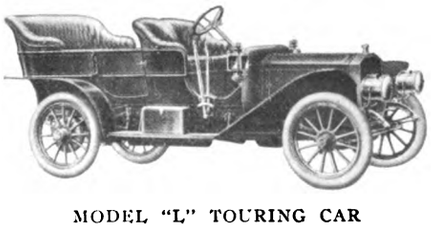
Early announcement was made of the features which are to characterize the 1909 product of the Mitchell Motor Car Co., but at that time no illustrations of the finished cars nor even their complete specifications were available. Present activities at the Racine, Wis., factory of the company, however, where the cars are rapidly passing through the various stages of production, have made possible the publication of these fuller particulars. As already told in these



MITCHELL ROADSTER

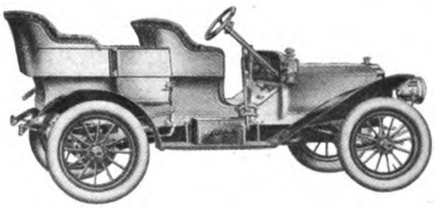
columns, the line for the coming season is to consist essentially of four vehicles, that is to say, two touring cars, seating five and seven passengers, respectively, and two lighter models, one a runabout, and the other a roadster. Of these the seven passenger touring car and the runabout are already familiar, though they have undergone some slight modification since first introduced. The "star" member of the group is the Model "K" touring car, which is considered an unusually attractive offering of "the-most-for-the-money" order.

As already described, the motor of this machine, which is rated at 28-30 horsepower, is of 4¼ by 4½ inches, cylinder dimensions, with a combination arrangement of the valves, consisting of overhead inlet and side exhaust, the latter comprising di-



MODEL "L" TOURING CAR

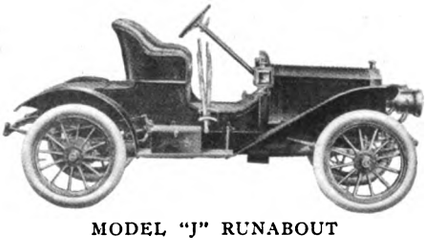
rect acting gearing, while the former employs the walking beam and long tappet rod arrangement, which is so much in use at the present time. Both sets of valves are actuated from the same side of the motor, and by a single cam shaft. The two-to-one gears are fully enclosed in a housing formed integrally with the crank case, but closed with a cover which is readily removable. The magneto, which is a regular feature of the equipment, together with the carburetter, is carried on the cam shaft side of the motor, making the principle moving parts and accessories easily accessible without necessitating the lifting of more than one side of the bonnet when making ordinary running adjustments. The crank case supports are cast integrally with the upper sec-



MODEL "K" TOURING CAR

tion of the case, leaving the lower section free for removal without disturbing the motor in the car. The radiator fan is carried well to the front of the forward cylinder, and is mounted on a bracket rising directly from the crank case, and is thus made entirely independent of any possible wearing among the cylinders.

As will be seen from the accompanying illustration, the change speed gearing employed, which is of the selective pattern, is mounted entirely on roller bearings of the Hyatt type. There are two sliding sets, that affording the high gear, developing the direct drive by means of a massive jaw clutch. The lay shaft is arranged to run at all times, though entirely disengaged while the high gear is in use, and the reverse is obtained by means of an idler which



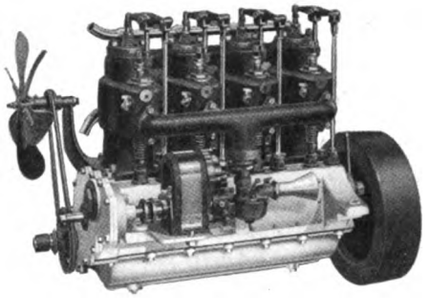
MODEL "J" RUNABOUT

also is in constant motion, though disengaged except when used for driving the car. The provision of a double set of universal joints—one between the master clutch and the gearset and the other at the forward end of the propeller shaft, ensures long life for the entire group, since the shafts and their mountings are relieved of any possible disaligning strains due to the racking of the frame out of its proper relationship.

The propeller shaft is equipped with double universal joints, and the live rear axle is held from rotation by means of the conventional single torque rod, suitably suspended at its forward end in the waist of the chassis. Like the entire mechanism of this and the other models, the rear axle is of original design and construction throughout.

The overall chassis specifications are: Wheelbase, 10¾ inches; wheels 32 inches diameter, shod with 4-inch tires. An unusual option is offered in the matter of body mounting in that the chassis may be had with either the detachable tonneau, surrey, runabout deck or single rumble arrangements, though, of course, extra charges are made where the purchaser desires more than one style of body.

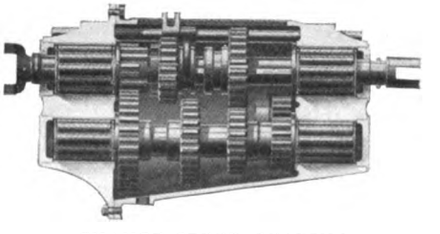
These particulars apply to the model "L" touring car: Engine dimensions, 4¼ by 5 inches, rating 35-40 horse-power; change gear selective; ignition, magneto; wheel base, 117 inches; wheels, 34 inches, shod with 4-inch tires. What are designated as extras are the use of the rear springs of the platform type, steel running boards, a full floating axle, ebonite-finished steering wheel, instead of merely a stained wood finish; improved upholstering. These characteristics, together with a distinguishing



MITCHELL MOTOR

mark in the improved design of the radiator, which also applies to the model previously mentioned, go to make up the more significant changes in this model as compared with the corresponding one of the current season.

Unlike the other two models described, Model "J," the runabout, is not equipped with magneto, though it is specified by the makers that the motor has been so designed that a magneto can be added to the regular jump spark equipment, or substituted for it, if required by the purchaser. The cylinder dimension of this motor are 4 by 4, and its output is listed at 20 horsepower. The selective method of gear-change is here employed, as is the shaft drive, as well as the other typical features of the line. Al-



CHANGE SPEED GEARING

though practically a continuation of the present runabout model, sundry minor improvements have been made in its construction, as in the arrangement of the spring suspension, for example, all of which go to improve its riding and wearing qualities. The wheel base is 92 inches, and the wheels are 32 inches in diameter, shod with 3½-inch tires.

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LOCOMOBILE MODELS FOR 1909

Entirely New Car to be Included in Forthcoming Product—Marked by Radical Departure in Two Features.

Among the announcements of new products which have appeared during the week, perhaps none is calculated to create greater remark than that of the Locomobile Co., Bridgeport, Conn., in which is forecasted in addition to the 40 horsepower model which is the most powerful machine made in stock form under that name, an entirely new car of 30 horsepower rating and bearing what is, in this instance, a radical departure from former practice in the use of the shaft drive and floating rear axle construction. The new Model "30," as it is to be known, is in other respects, practically uniform with both of the types in present use, and forms an intermediate type between the "40" and the little "20," which is so well known.

The largest car of the trio has the standard type of four-cylinder motor, the dimensions of which are 5 by 6 inches, and which is said to develop no less than 60 horsepower "on the bench." It has 123-inch wheel base and 36-inch wheel shod with 4 and 5-inch tires, front and rear. Landaulet and limousine body equipments also are provided for this chassis, in addition to the regular touring equipment, while it is further produced in the form of a runabout model, which was brought out during the latter part of the present season. Practically the same arrangement also is obtainable in the form of a "toy" tonneau.

The new model has a "square" motor, of 4½-inch cylinder dimensions and develops no less than 38 horsepower under test conditions. The machine as a whole displays such of the Locomobile characteristics as low tension, make and break ignition, bronze engine base and gearbox, four-speed, selective change gear, ball bearing mountings wherever required, and is made with special alloy steels, and heat-treated drop forgings produced at the Bridgeport shops. Its wheel base is 120 inches, its overall length 15 feet, and its wheels 34 inches diameter, shod with 4 and 4½-inch tires, front and rear. Despite its length, it is designed with sufficient steering lock to permit a complete turn within a 38-foot circle, which makes it possible to swing the vehicle in any ordinary street. Runabout variations are presented also in the two and four seated—"toy" tonneau—types, the inclined steering column, low driving position and other runabout characteristics being secured in a peculiarly effective manner.

Particular interest centers about the rear axle construction, which is the distinctly novel feature of the machine, though in no way a radical departure from the precedents of accepted practice. The parallelism of the front and rear axles is preserved by means of distance rods, corresponding in form to those employed on the chain driven models. These rods carry the brakes, and their rear ends are swiveled to the axle tubes. This arrangement serves the three-fold purpose of removing the bending stresses from the struts when the springs are depressed, removing the braking stresses from the rear axle, and relieving the springs from disastrous torque and driving strains. The latter purpose also is served by swiveling the spring seats about the axle tubes. The tubes themselves, also are relieved from all torsional stresses.

The axle proper is trussed by means of tension rods which extend from the differential housing to the ends of the tubes, while particular structural advantage is claimed from the fact that no brazing is used in the process of assemblage—the tubes and housing being secured by means of pressed fits and rivets. The torque stresses of the group are resisted by the usual single bar, which is affixed to the differential housing at its rear end, while in front it is suspended from a cross member of the frame by means of cushioning springs. The layout is such that practically a straight line drive is obtained when the chassis is carrying its normal load. The propeller shaft is equipped with a universal joint at either end as well as a slip joint at the rear. The driving portions of the rear axle are of the full floating type with what is usually known as the "hub cap" drive.

Caution in Refilling Fuel Tanks.

When refilling fuel tanks from which the carburetter feed is taken by means of the compression system, great care should be taken to provide against the danger of igniting the fumes which are liberated as the pressure is let off. In every case the exhaust gas or air which has been imprisoned in the tank will be charged with a certain amount of fuel vapor, and in some cases it may contain sufficient air to form an explosive mixture. In any case it is liable to become so soon after being liberated. On this account, open flame lights, matches, even the supposedly innocent tail light, must be scrupulously extinguished as a necessary precaution.

Tensioning Springs of Automatic Valves.

No such delicate adjustment is required in the tensioning of the retaining springs employed with the valves of the mechanical type as is necessary where the action is entirely automatic. At the same time either excessively high or low spring tension tends to a certain extent to interfere with the proper action of the part. Thus too strong a spring is apt to shove the valve into its seat with such force as to destroy its accuracy, if not actually cracking the valve head by the severe impact. Insufficient tension, on the contrary, makes the valve sluggish in closing, and is apt to have an effect upon the action of the motor accordingly.

INNOVATIONS IN NAPIER PRODUCT

Edge's Announcements Include a Two and a Four Cylinder Model—Characteristics of the Twin Motor.

One of the most significant and at the same time interesting innovations of the season in British motoring circles is embodied in the new product of Messrs. S. F. Edge, Ltd., who have announced for the coming year three new members of the Napier line. One of these—a 30 horsepower, six-cylinder car, is a continuation of the former policy of the company in the production of sextuple-engined cars. The other two are to be machines of 15 and 10 horsepower, respectively, and equipped with four and two-cylinder motors. In addition to these machines, the six-cylinder cars already introduced will be continued in the several sizes and with but slight modification.

The two, three and six-cylinder models, which are new, possess a common feature in their engine dimensions, which are 3¼ by 5 inches, bore and stroke. The specifications of the twin motor, just announced, show it to possess several features new to this make of car, such as completely enclosed valve gear, unit mounting for the power plant, and also magneto ignition, without the jump spark duplication. The cylinders are cast in pairs, the units being common to the three models, the design of the motors being uniform in other respects except for the number of cylinders employed. The full importance of the announcement is not appreciated until it is remembered that it is only a couple of years since Edge renounced all but four-cylinder models with great blare of trumpets, since which time he has devoted himself exclusively to the production of high-priced cars of that stamp. The new small cars are intended for cab as well as light car service, while the unit power plant also is designed to be utilized in the equipment of motor boats.

Improper Placing of Non-Skid Bands.

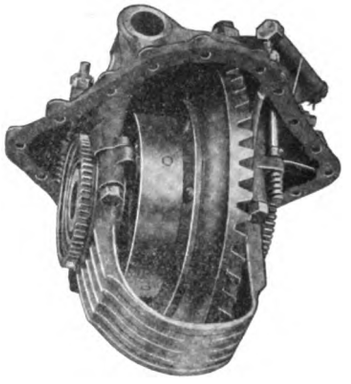
It has frequently been pointed out that it is improper to use non-skid bands on opposite front and rear wheels, only, or on only one of the rear wheels for the reason that this provision involves an undue amount of differential action, thereby tending to overwork that device. A further and perhaps more important argument against this practice is on the ground that the non-slipping of one of the wheels, which is thus assured, by no means prevents rthe other from sliding. The result is that on slippery roads the wheel carrying the non-skid does practically all of the work of propulsion, while the other merely slips in practical idleness and at a relatively high rate of speed.

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REFINEMENTS IN LIVE REAR AXLE

Radical Treatment of Interior Parts in Timken Construction—Provisions for Accessibility and Adjustment.

Increased use of the live axle method of transmission has given rise to a number of significant improvements in that critical device. Further details concerning the new "one piece" pressed steel tubular axle, which the Timken Roller Bearing Axle Co., of Canton, O., is producing for cars weighing under 3,000 pounds and not exceeding 45 horsepower, and which has already been reviewed in these columns, disclose a number of features in design and construction which are calculated to improve its endurance and increase its serviceability. The boldness of method employed in the design of the axle and differential housing itself, where the entire load bearing and gear encasing member is a single unit, is matched by the way in which the disposition of the



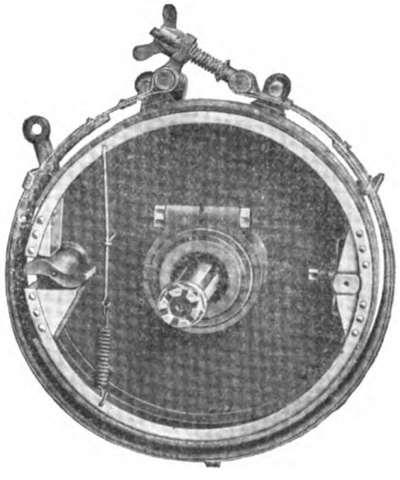
GEAR CARRYING UNIT VIEWED FROM LEFT

interior parts is effected, and provision made for retaining the integrity of their relations.

As will be seen by the accompanying illustration, the differential housing is of spherical form, having but one bolted-on plate, the latter being on the forward side where the rear end of the propeller shaft is admitted. The sides taper into tubular extensions out to the hubs of the wheels, forming the outer axle, the thickness of the metal increasing from the center to the axle ends. The blending of globular and tubular forms results in doing away with the angles and joints which are common to many types of built-up axles and which are thought to increase the strains and shocks at various points by leverage, as well as providing points of structural weakness. Spring seat bases are swiveled in generous loose mountings on the axle, to lessen shocks from the latter being communicated to the body. The strut rod braces, when required, are placed on separate brackets, immediately underneath the frame, to give a straight thrust from axle to the car sides. The bosses are extra large and are fitted with bushings having hardened steel bearing surfaces.

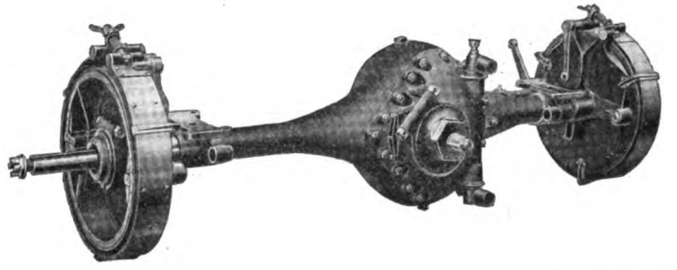
In addition to the improvement in the form and strength of the axle proper, the parts comprising the shaft pinion and differential mounting have had radical treatment. The differential gear is contained in a carrier, which, as shown in the accompanying illustrations, is one unit, comprising the plate which closes the housing, the bearing for the pinion end of the power shaft and the two bearings for the gear itself. The outer face of the differential carrier has a vertical bearing set in its cheek for the cross-end of the Y shaped torque bar, the latter being permitted a hinged relation with the rear axle. A feature which reveals to what degree of refinement the construction has been carried consists of the provision of worm screws by which the bearings of the differential gear may be adjusted from the outside without the removal of anything more than the cotter pins in the screw heads. The whole gear carrier with the gear itself may be removed from the housing without taking down the axle or disturbing brake equipment, springs, hubs or bearings. The live axle is furnished in both clutch and fixed type hubs.

Both internal and external brakes are supplied in a form which makes efficiency



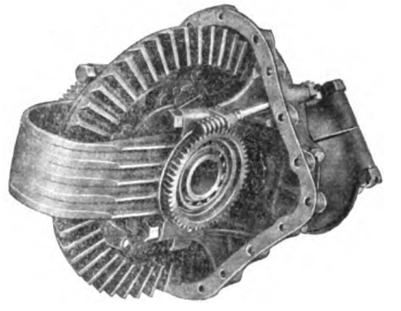
SIDE VIEW OF BRAKE

certain. They are approximately 14 inches in diameter and 2½ inches in width. The levers for the internal brakes are placed within the limits marked by the sides of the chassis to prevent complication or interference with the leads to the external brake levers. The band of the internal brake is of pressed steel and fills the entire inside diameter of the drum, a double acting cam at the anchorage point spreading it with even force all around against the friction surface of the drum. A strong spring release tension makes it float clear of the friction surface when not in use. The brake box and friction surfaces are kept dry and free from lubrication by double felt washers between the shaft and the axle casing.



FRONT VIEW OF REAR AXLE, SHOWING GEAR CARRIER, SPRING BASES AND BRAKES

The wrap of the contracting band on the external brake is designed to be equally absolute whether the direction be forward or back. The result is obtained by means of double anchor and fulcrum points, which change with the direction in which the wheel rotates instead of being positively



GEAR CARRYING UNIT VIEWED FROM RIGHT

fixed. The brake band floats with the drum for a short distance around to the anchor points, which serve as fulcrums for pulling tight when pressure is applied.

Adjustment of the Air Brake Linkage.

While the average driver is enough of a mechanic to so adjust his brakes that the lever or pedal will not reach the limit of its travel before the bands are fully applied, it does not always occur to him to observe whether all of the brake linkage is clear of the frame and other mechanism at that time. Even a very slight amount of interference in an out of the way spot may cause the brakes to slip.

To Avoid Leaks in Cooling System.

To avoid leaks in the cooling system it is absolutely necessary that the water overflow and steam outlets be kept clear at all times. The constant presence of dust and more or less oil tends to clog them, and when this occurs the increased pressure in the system which always follows the warming up of the engine, causes the contents to seek outlet at the weakest point.

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FUEL CONSUMPTION AS AN INDEX

Excess Rate Denotes the Existence of Trouble—Some of the Most Fruitful Causes of Waste.

It is important that the owner should keep close watch over the fuel consumption of his car, checking it up by the mileage totals of the speedometer, because it not only enables him to observe the rate of expenditure for operating the machine but also furnishes a valuable indication of running conditions in the machine. It is a simple matter to arrange a systematic log wherein the rate of consumption per car mile is readily calculated. This being done, any abrupt increase in fuel cost, must be taken as an indication of something gone wrong, unless of course, it is caused by unfavorable running conditions—in which case the increase will be only temporary.

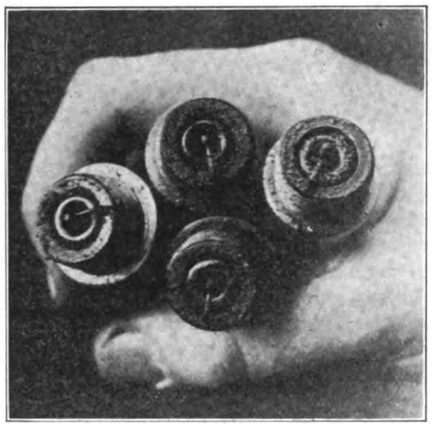
Four possible causes may contribute to a high rate of fuel expenditure. Thus unfavorable highway conditions in the matter of mud, an unusual amount of hill climbing or the haulage of a heavier load than is customary must be sought for as soon as an unforeseen rise develops Failing either of these, the increase possibly may be chargeable to a faulty adjustment of the carburetter, whereby an over-rich mixture is being used constantly. If this happens to be the case the foulness of the exhaust as well as the sluggish action of the motor furnishes supplementary clues.

The other sources of possible excess may not be so apparent. A fruitful cause of waste, of course, is leakage in the feed piping to the carburetter, as well as a poor float adjustment which may cause the mixing chamber to overflow, even when the motor is in action. In some instances though this may not be sufficient to cause an appreciable amount of drip, sufficient gasolene will be carried away and evaporated in the bottom of the mixing chamber and in the pan directly under it, to cause a very noticeable loss of fuel. Indeed, one authority states that in the case of a machine standing over night on the floor as much as a quart of fuel may be evaporated without any noticeable drip occuring. This difficulty must be eliminated at once when discovered, as it contributes very largely to the fire risk, in addition to increasing the gross consumption.

In the event of any stiffness in the transmission of the vehicle, or even in the motor itself, the resulting increase in load will, to a certain extent, manifest itself in a rise in the rate of fuel consumption per car mile. Thus a dragging brake band, a stiff crank shaft bearing, even a disaligned steering gear which causes the front wheels to run out of line, may be the cause of an indication sufficiently noticeable to flag the difficulty. The rate of consumption thus may be used as an accurate indication of running efficiency when considered on a mileage basis, even though it cannot be construed into an absolute guide to the actual source of trouble where such exists.

Spark Plugs that are Soot Proof.

In the excitement of a big race, when victory hovers uncertainly over the contestants, the driver and mechanic who have no worries about ignition trouble or missing cylinders have much to be thankful for, as the service required in racing conditions is particularly severe. The high speed of the engine necessitates a great use of lubricating oil, no small part of which deposits as carbon in the cylinders. As showing how heavily this deposit occurs, the ac-



companying illustration of the Soot Proof plugs taken from the winning car in the Jericho sweepstakes right after the race, is ample evidence. The constant and heavy lubrication of the motor during the race resulted in the charring of the surplus oil and the formation of a thick coating of black soot in the explosion chamber. While lubricating oil as poured into the tank has insulating qualities rather than conductivity, yet when it has burned to a carbon residue the latter is only too ready to short circuit the ignition current. In fact many cases of ignition trouble are directly attributable to the spark plugs failing to give the spark at their points because the high tension current has been "shorted" from the central pole to the return of the outer shell by means of a soot coating on the insulation. The appearance of the plugs in the picture, however, makes it plain that their construction has obviated this possibility, as they gave uninterrupted sparking throughout the race, in spite of their heavy carbon deposit.

Against Overstraining the Nuts.

When bolting separate parts together it is advisable to bring as little strain upon the nut as possible. If the bolt sticks in the hole it should be driven down by hammering the head, and if the parts do not come together easily it is better to clamp them temporarily than to overwork the nut. The danger lies in the tendancy to stripping the thread.

EARMARKS OF REFURBISHED CARS

One Sure Way to Recognize the Renovated Vehicle—Parts that the Painter is Apt to Neglect.

Ordinarily a sure way of distinguishing a used car which has been refurbished up to look as good as new, from one which has never been used at all, is to examine the paint on the runing gear and the underneath parts of the chassis. It is observable that however successful the average automobile painter may be in his treatment of the body portion of the "job," when it comes to the chassis he is apt to fall below his best standard. The reason for this is not far to seek. "The carriage painter"—from whose ranks most automobile painters are drawn—"is practically at home with any work to be applied to the body of the automobile, because, primarily, he has been specially trained along this line," says a well-known exponent of the craft. "But coming to the chassis, and particularly to the under parts of the gearing etc., the work takes on a different aspect.

"These parts, with most machines, are very much neglected during service, so that when the car visits the paint shop it is more often than not in a sorry condition. The precisely well painted or well touched-up and varnished job is that which has thorough work applied to it throughout—that is uniformly well taken care of over all its parts, in fact.

"These under parts, then, should be thoroughly cleaned, using some form of petroleum substances to loosen up the grease and caked accumulations, finishing off with a wash of turpentine, the parts then being wiped dry. Then coat up with a black flat color, with a binder of raw linseed oil in it, finishing in proper time with a coat of black japan, or black color and varnish."

Caution in Rebabbiting Bearings.

A recent accident in a Michigan garage points to the need of special caution when rebabbiting bearings under the extemporized conditions which prevail in the average establishment of that sort. A mechanic was pouring the metal into the bearings of a motor car when in some way the fluid came in contact with a small quantity of water. In the resulting explosion painful if not serious injuries were caused.

Importance of Keeping Hub Caps Clean.

That old admonition about the importance of keeping the hub caps, as well as the wheel and knuckle bearings, clean and free from verdigris such as may accumulate in the brass attachments loses none of its importance with frequent repetition. Because the bearings involved usually require little or no attention there is a great tendency to neglect them altogether.

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WORLD'S HIGHWAY EXPERTS MEET

International Roads Congress at Paris Deals with the Automobile Problem—What the Ideal Road Must be.

No neglect of the motor can be charged against the International Roads Congress which began its sessions in Paris on the 12th inst., and which is attended by delegates not only from the United States but from practically all the European countries and from the Orient, as well. As a matter of fact the motor car may be credited with having brought about the congress, the main reason for its convocation being given as a desire to solve the problem that automobile traffic presents. Fortunately there is no hostile spirit to the automobile manifested in the gathering, the delegates apparently seeking to learn the best ways of combating the evils which it is accused of creating by its operation on public highways.

The congress was opened by M. Barthou, the minister of public works, who in a felicitous speech welcomed the delegates of the many nations represented. Graceful responses were given by the presidents of the delegations from the United States, Great Britain, Belgium, Germany and Russia, the American sentiments being voiced by L. W. Page, from Washington, director of the United States Office of Public Roads. In the afternoon the serious business of the congress commenced at the Tuileries.

Because of their more or less limited knowledge of French, the English speaking delegates soon organized themselves into an Anglo-American conference, holding meetings in advance of and separate from the general conferences. They were careful to make it clear, however, that this action did not mean any divergence from the regular sessions of the congress but was solely for the purpose of getting a better understanding of the progress of the congress, the proceedings of which were translated into English and discussed at the Anglo-American meetings. Conversely the speeches and recommendations of the English speaking delegates at their conferences were translated into French for the benefit of the whole congress, and the tabulated information and the specifications which they employed were converted into metric as well as British units.

The new conditions created by the automobile are recognized as the governing influence to be considered in future road building, although there is a wide diversity of opinion as to how they are best to be met. Not only pleasure cars of high speed but commercial vehicles for heavy transport enter into the considerations for the future.

The ideas of the members of the congress as to what shall constitute the ideal road of the future approximately agree—namely, a road with a well drained solid foundation, built of some hard aggregate bound together by tough, elastic binder, waterproof and free from dust or mud, hard enough for automobiles, yet soft enough to be adapted to horses' feet.

Whatever the material from which the road is built there is a general agreement upon the following points: Main highways must in the future, wherever possible, be airlines between important centres, with branch roads connecting up to the main lines for local traffic.

There should be no curves on the main roads of smaller radii than 300 feet in the open country and less than 150 feet in the hills. Reverse curves should be avoided, also steep grades with curves, and level railway crossings, and the outer edge of curves should be raised. Opinions as to width vary greatly, but the average is a minimum of about thirty feet.

In a paper on the subject, Col. Bromwell, superintendent of Public Buildings and Grounds at Washington, points out that if park roads cannot be modified to meet the new conditions they will rapidly deteriorate and become useless. Col. Bromwell's idea is that park roads should be so constructed as to meet the somewhat contradictory requirements of being smooth and elastic in surface for horses, and hard in surface, and not too slippery, in order to be suitable for the motor traffic. The road of the future, he thought, should be composed of some tough elastic material, bound together by another material possessing similar qualities. Such roads would cost more originally, but the maintenance would be less.

To obtain an ideal road Col. Bromwell suggested the interposing between the base course of the macadam and the top course of a layer of asphaltic or tar compound, carried for convenience in a sand base. If the top course was then rolled and compacted the compound would be forced up into the interstices of the upper course, thus thoroughly binding the stones together and forming a top course of asphaltic or tar concrete. Just enough top dressing should be applied to fill up the larger interstices of the top course, and this top dressing should contain little or no dust or very fine ma the surface of roads already built with material.

L. W. Page, director of the United States Office of Public Roads, submitted a paper in which he contended that the main factor of injury is the great tractive force, or sheer, exerted by the driving wheels of motor cars. He admitted that he can offer no satisfactory solution of the problem of road deterioration by automobiles. However, he thinks the question could be met by following one of two general methods; first, by constructing roads in such a manner and of such materials as to reduce to a minimum the formation of dust, and, second, to treat the surface of roads already built with materials that will give the same result.

MUST KEEP THEIR ROADS IN ORDER

Lancaster Automobile Club Warns Pennsylvania's Negligent Officials—Further Neglect to Cause Prosecutions.

Upon opening their mail, the supervisors and constables of the small towns in Lancaster county, Pennsylvania, may prepare themselves for a jolt. Modern business system magistrates having taught the members of the Lancaster Automobile Club the possibilities of the mail order plan in speed fine commerce, the club has decided to adopt similar tactics in dealing with the people responsible for the condition of the roads. Rural officials who have heretofore regarded their jobs as positions of honor and emolument, without serious responsibility, are to find that the club is right after them with the State law, which places upon them certain obligations concerning the care of roads.

For the opening gun in its letter campaign, the club has prepared a communication, the main text of which is as follows:

"In any township in Lancaster county in which during the month of October the supervisors do not remove and take away the loose stones they will be prosecuted according to the terms of the act of 1901. Inspectors will be sent over the roads on and after November 2 with instructions to report every case of default; and in all such cases actions will be instituted for the recovery of the fine or penalty.

"Supervisors will be expected to erect at all intersections of public roads, handboards legibly inscribed as provided by the act of 1836. On or after October 20th, any supervisors do not remove and take away will be given ten days or more notice; and on or after November 2, suits will be brought to recover the penalty for neglect of duty.

"At the November court of quarter sessions any constable who fails to report any neglect of the above duties by any supervisors or who reports sign boards erected when they are not erected, will have his return challenged and excepted to; objections will be filed against the allowance to him, of any costs or mileage, and due measures will be taken against him for a false return and neglect of duty."

Railroad Man Projects Automobile Line.

Having no street car service, Huntington, Ind., is inclining a favorable ear to the proposition of an automobile transit system for which J. C. Curtis, general manager of the C. B. & Q. Railroad, is asking a franchise from the council. He says that with Chicago capitalists he stands ready to operate four large machines, and that if his company can get the franchise it asks for, it will pay for all improvements and repairs of the pavements on which it runs.

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MUNICIPAL AUTOMOBILE EXPENSES

What Maintenance of Cars Costs the City of New York—Engineer Reed Furnishes Some Figures.

That the City of New York is spending an average of $250 a month in the maintenance of each of its motor cars, or about what it would cost as many private owners to maintain cars for their own personal use, was the statement of James W. Reed, an engineer of the Finance Department, who brought up the subject in connection with the Budget Exhibition, which is being held in New York. For some little time Reed has interested himself in the problem of the ownership and handling of the city's cars, and as a result of a very thorough investigation of their use and abuse, he is probably better qualified to give an opinion on the legitimacy of their service than anyone else who is connected with the municipal government.

"That means," he continued, referring to the figures quoted, "$25,000 a month, or $300,000 a year for automobile maintenance. There is a big depreciation, for the average life of these cars is only about two years."

After ennumerating various city departments which have cars and which use them legitimately, he explained that one motor truck in the Board of Education had paid for itself in a year.

"Who buys these automobiles?" he exclaimed. "They are ordered purchased for the most part by the Board of Aldermen without public letting. The reason that there has been, except in three or four instances, no public letting, is that it is particularly hard to draw specifications so as to shut out the bad automobiles. We have been loaded up with some thirty-five kinds of automobiles, of which a great number are the greatest lot of junk imaginable.

"It is true that there are a great many improper uses to which these cars are put, but not necessarily by the city officials themselves. The machines are often used to bring the department head downtown in the morning and to take him and his secretary out to luncheon. Other persons outside have no hesitancy in asking the head of a department to lend his departmental machine. Its use is asked for all sorts of purposes, even for the personal use of the borrowers.

"I have heard of one city car which never turned a wheel all winter in the city service. It was used by a banker, who ought to have been ashamed of himself for asking for it.

"I believe that much of the service to which these automobiles is put is 'joy riding.' But a very small percentage of it is done by city officials, and the city is not being mulct in the purchase of the cars."

In substantiation of the speaker's estimate of the present cost of maintaining the city's cars, figures were shown upon the wall among various other exhibits of a similar nature, giving the cost of operating the cars, which were used by the city officials during the year 1907. These gave a total for the year of $88,433, and revealed the fact that whereas the Board of Assessors had required but $116 for the entire year, the Borough President of Brooklyn, with the several machines under his care, had required $19,433, these being the two extremes of the list. The figures in detail appear below:

Borough Presidents.	
Manhattan	$7,982
Bronx	1,139
Brooklyn	19,433
Queens	2,396
Richmond	5,091
Departments.	
Finance	8,099
Bridges	2,393
Water	5,560
Parks	2,770
Corrections	2,128
Health	9,198
Police	7,633
Street Cleaning	8,166
Fire	4,853
Board of Education	982
Board of Assessors	116
Coroners	165
Sheriff of New York County	178
Total	$88,433

Frelinghuysen Incubating More Law.

Looking with critical eye on the results of his famous New Jersey automobile law, State Senator Frelinghuysen after due deliberation pronounces it good, although he plans an amendment to it which he thinks will help both motorists and farmers by providing the counties with money for giving the highways dustless surfaces. His proposed amendment, announced at a recent political meeting, will provide that 50 per cent. of the revenue derived from automobiles be divided among the counties for the purpose of putting Tarvia or other preparation on the roads. That the amendment is not born of any consuming desire to make things more pleasant for the automobilists Frelinghuysen hastened to make plain by stating that the dust causes immense damage to growing crops and that it was to help the farmers that he wishes the dust-laying applications. As to the plan to expend $10,000,000 for a shore road from Cape May to Atlantic Highlands, the senator is absolutely opposed, on the ground that the roads in rural districts should be improved first.

Few American Cars in Shanghai.

Although the first automobile to make its appearance in Shanghai was of American manufacture, the advantage has not been followed out and at present most of the cars in use are of foreign production. The pioneer vehicle was imported in 1902. Today there are 140 machines owned in the city although only five of them are the property of natives.

PARIS MAY LOSE ITS BIG SHOW

Future of the Salon de l'Automobile Said to be in Doubt—Indifferent Attitude of the French Trade.

"It is freely stated that all is not well with the Paris-Salon de l'Automobile," asserts a British motoring publication editorially, "and that so unsettled are its prospects that its abandonment is possible. Hitherto all space has been allotted before the end of August, and later applicants have had to be squeezed into odd corners or deal through other exhibitors. At the moment, it is said that not merely is plenty of space still unallotted and unapplied for, but extreme pressure is being brought to bear on even well known firms to compel them to take up space under an agreement signed in the early days of the exhibition, to show annually. And it is freely stated that those concerns whose presence is vital to the success of the affair have insisted upon obtaining their floor spaces free of rent. If true, and there is no reason to doubt the very explicit statements made, it is evident that the glory of the Paris show has departed, and that its struggle for a mere existance has begun.

"The French trade, treating and developing their show as a huge retail advertisement and mart, have discovered that that phase has passed, and, in the condition of financial exhaustion which prevails over a considerable section, participation under any other circumstances is not possible or advisable. The French trade cannot afford to spend tens of thousands of pounds on a peep-show for the good people of Paris, and, having come to that decision with a revulsion very characteristic of their country, now take the other extreme, and will not, if they can avoid it, hold a show at all."

Average Life of the Automobile.

With that impressive show of exactitude which the statistician is so fond of, it recently has been figured out that the average life of an automobile is 4.99 years. This interesting result is arrived at by computations based on the public automobile statistics of France, taken from the government registration records, and therefore differs in method of obtaining from estimates derived from purely empiric data. It is shown that in January, 1903, there were 12,984 recorded machines in France and that during the year 6,900 new French cars were sold and 350 cars imported. At the end of the year there were only 17,107 automobiles, however, against the 20,234 that there would have been had all of them remained in service. By taking similar comparisons for the following years, the estimate of 4.99 years as the average period of usefulness for an automobile was evolved, a period that will probably lengthen as the industry advances.

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The Week's Patents.

893,738. Two-Cycle Motor. Gotthold L. Langer, Stockton, Cal., assignor to Joseph Geiger, Stockton, Cal. Filed Sept. 19, 1906. Serial No. 335,253.

1. In a motor, a hollow base, a pair of spaced cylinders mounted upon said base and connected at one end therewith, the upper portion of each cylinder being smaller in diameter than the lower portion, said upper portion of each cylinder constituting an explosion chamber, the said lower portion adapted to serve as a pump, passages in the walls of said upper portions, ports through the walls of the cylinders at the ends of said passages whereby communication is established between the enlarged portion of one cylinder and the smaller portion of the other cylinder, the port at the upper end of each passage constituting an inlet for the explosion chamber, an oil intake port and an air intake port for each cylinder, said ports being spaced apart and leading into the aforesaid passages, an exhaust port in the wall of each cylinder, closures at the outer ends of said cylinders and provided with hollow re-entrant heads depending within the cylinders and spaced from their inner surfaces, transverse ports in said heads opposite the air intake ports of the cylinders, pistons operating within said cylinders and provided with guide members operating between said re-entrant heads and said cylinders, and spaced ports in said guide members adapted to be aligned with the explosion chamber inlet ports and the exhaust ports respectively, and enlarged portions carried by said pistons operating in the enlarged portions of the cylinders.

893,794. Flexible and Elastic Shaft Coupling. Leonce Girardot, Puteaux, France. Filed Nov. 20, 1905. Serial No. 288,284.

A flexible and elastic shaft coupling comprising in combination two plates adapted to be fixed respectively to the adjacent ends of the shafts to be coupled, there being two sets of teeth of triangular section made respectively integral with said plates at their circumference and meshing with each other without making contact, each of said teeth being recessed in its outer edge, springs arranged between the side faces of successive teeth, washers located between the ends of the springs and the said faces of the teeth, a movable ring on which are threaded all the springs and washers, said ring lying in the recesses in the teeth, there being spherical bosses formed respectively in the plates and a spherical headed screw screwed into one of the plates and adapted to connect both plates together though admitting their slight inclination one with regard to the other, substantially as described and for the purpose set forth.

893,832. Tire. Herman B. Baruch, New York, N. Y. Filed April 24, 1907. Serial No. 369,904.

1. A tire having an outer tube or shoe, an inner tube comprising a plurality of expansible tube-sections, and flexible parts within said shoe extending between said sections and being loose under normal conditions, said parts permitting said sections to expand to fill space adjacent thereto formerly occupied by a section which has collapsed, but precluding more than a predetermined amount of expansion of said sections, substantially as set forth.

893,858. Brake. Frederick C. Miller, Cincinnati, Ohio. Filed Jan. 28, 1907. Serial No. 354,545.

1. The combination of the stationary and rotary members, one of which is provided with an internal annular braking surface and the other of which carries a pair of intermeshing sectors constructed with eccentrically located and oppositely presented grooves, a split ring surrounded by the internal braking surface and having its extreme ends engaged with and confined by the grooves in the sectors, and means for operating the sectors.

893,867. Automobile. Eugene S. H. Pereyra, Brooklyn, N. Y. Filed Dec. 28, 1907. Serial No. 408,446.

1. In a convertible automobile, a detachable sub-structure, yieldingly connected to said automobile; which substructure may be attached by passing transverse cross rods through holes in the main frame of said automobile and fastening said rods to the frame by nuts substantially as described.

893,955. Spark Plug. Clarence T. Van Woert, New York, N. Y. Filed Aug. 1, 1907. Serial No. 386,639.

1. A spark plug adapted to be used in a substantially upright position, including a core of insulating material having a recess in its lower or inner end, an electrode extending through said core and terminating within said recess substantially flush with the innermost portion thereof, and a second electrode extending into said recess from below and terminating adjacent the end of the first-mentioned electrode to leave a spark gap therebetween, adjacent the innermost portion of the recess, whereby all oils or other liquids are automatically drained away from the spark gap by the walls of the recess and the second electrode, and whereby the first portion of the explosion sweeps said liquids from the recess.

894,014. Rubber Tread or Tire for Wheels. Edward B. Killen, London, England. Filed Oct. 27, 1906. Serial No. 340,867.

1. In a tread or tire, the combination of a floated unbroken boltless inwardly flanged binding circular rim provided with holes at suitable distances apart, a rubber tire having its outside trending circumference molded into studs adapted to fit through and to have their necks surrounded, supported and protected by the walls of the said holes and having its inside circumference molded with inverted dish-shaped recessed air spaces opposite the said studs, and washers adapted to fit and lie fixed in the said air spaces; said washers having screw threaded holes to take the ends of bolts passing through the felly and rim of the wheel proper, all substantially as and for the purpose specified.

894,052. Safety Device for Occupants of Vehicles. Richard Radtke, Suhl, Germany. Filed March 16, 1908. Serial No. 421,526.

A safety device for the occupants of vehicles comprising in combination a plurality of rubber straps forming a closed belt, held on the shoulders in an easily detachable manner by loops and back straps provided with a buckle, as well as of a breast band attached at one side and connected at the other side by means of hooks and chain in an easily detachable manner, two vertical helical springs being arranged on the seat, to the upper eyes of which the rubber straps are attached by means of easily opened spring hooks so that the springs and the rubber straps exercise an elastic vertical pull on the body of the wearer when it is thrown upwards and forwards by the vehicle striking an obstacle, in such manner that the said wearer is pulled back to the seat.

894,055. Automobile. Cowan Rodgers, Knoxville, Tenn. Filed Dec. 2, 1907. Serial No. 404,773.

1. In an automobile, an extensible frame, and a body horizontally movably mounted upon said frame.

894,060. Motor Vehicle. Richard Ruemelin, Huntingdon, Pa. Filed July 1, 1907. Serial No. 381,608.

1. In a motor vehicle, the combination of a rigid under frame flexibly connected at the front with a horizontally pivoted front axle and its wheels, bearings at the rear portion of the under frame having readily separable portions, axle inclosing shells pivotally mounted in said bearings, rear axle sections rotatably mounted in said shells, driving mechanism therefor removably and resiliently supported on the under frame, and a motor and gearing incorporated with said mechanism and with the axle, said portions comprising a readily removable power equipment for the vehicle, substantially as set forth.

894,079. Tire Holder for Automobiles. Frederic S. Suthergreen, Osterville, Mass. Filed May 16, 1907. Serial No. 374,001.

1. In a tire supporting device, a rod supported for oscilation, tire supporting members connected therewith, a tire clamp, and

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means for connecting said tire clamp with a fixed supporting point.

894,084. Tire Tread Chain for Automobile Wheels, etc. James C. Thomas, Corsicana, Tex., assignor of one-half to Frederick W. Barth, Corsicana, Tex. Filed March 22, 1907. Serial No. 363,885.

1. A device of the class described comprising side rings, a flexible band having side seams in which the rings are incased, said side seams being provided at intervals with recesses or openings to expose the rings, and cross chains connected with the rings at the exposed portions thereof and extending across the outside of the band.

894,271. Folding Shield for Automobiles and Other Vehicles. Frank Jackson, Denver, Colo. Filed Aug. 28, 1907. Serial No. 390,468.

1. A folding shield for motor cars and the like, comprising upper and lower members having registering hinge plates at the corners of their adjoining edges and bolts and nuts for connecting and clamping the plates of each hinge in frictional engagement, said hinges permitting said shields to be folded to lie parallel; resilient buffers on said shields which engage when the shields lie parallel; hooks for holding said upper shield against the lower shield; a support adapted to be rigidly secured to the dash board of the car; hinge connections between said support and the lower shield; longitudinally adjustable brace rods, and clamps therefor, pivotally connected to the hinge plates of the lower shield and to the car for supporting said folded sections in either a vertical or a horizontal position and brackets on the shield support upon which the end of the upper shield rests, when the folded members are in a horizontal position.

894,276. Vehicle Wheel. Harry M. Martin, Columbus, Ohio. Filed June 10, 1907. Serial No. 378,054.

1. The combination with a vehicle wheel having a pneumatic tire, of a supplemental rim, and a plurality of spaced saddles engaging the pneumatic tire and supporting said supplemental rim.

894,286. Air Intake Regulator for Carburetters. Frederick C. Reineking, New York, N. Y. Filed April 10, 1908. Serial No. 426,180.

In air intake regulators for carburetters, in combination a cylindrical air intake chamber, air ports in the sides of said chamber, one continuous spring inside of said chamber closing said air ports, said spring at all points being free to move back away from said air ports.

894,290. Vehicle Wheel Rim. Edwin C. Shaw, Akron, Ohio, assignor to B. F. Goodrich Company, Akron, Ohio, a Corporation of Ohio. Filed Feb. 20, 1907. Serial No. 358,459.

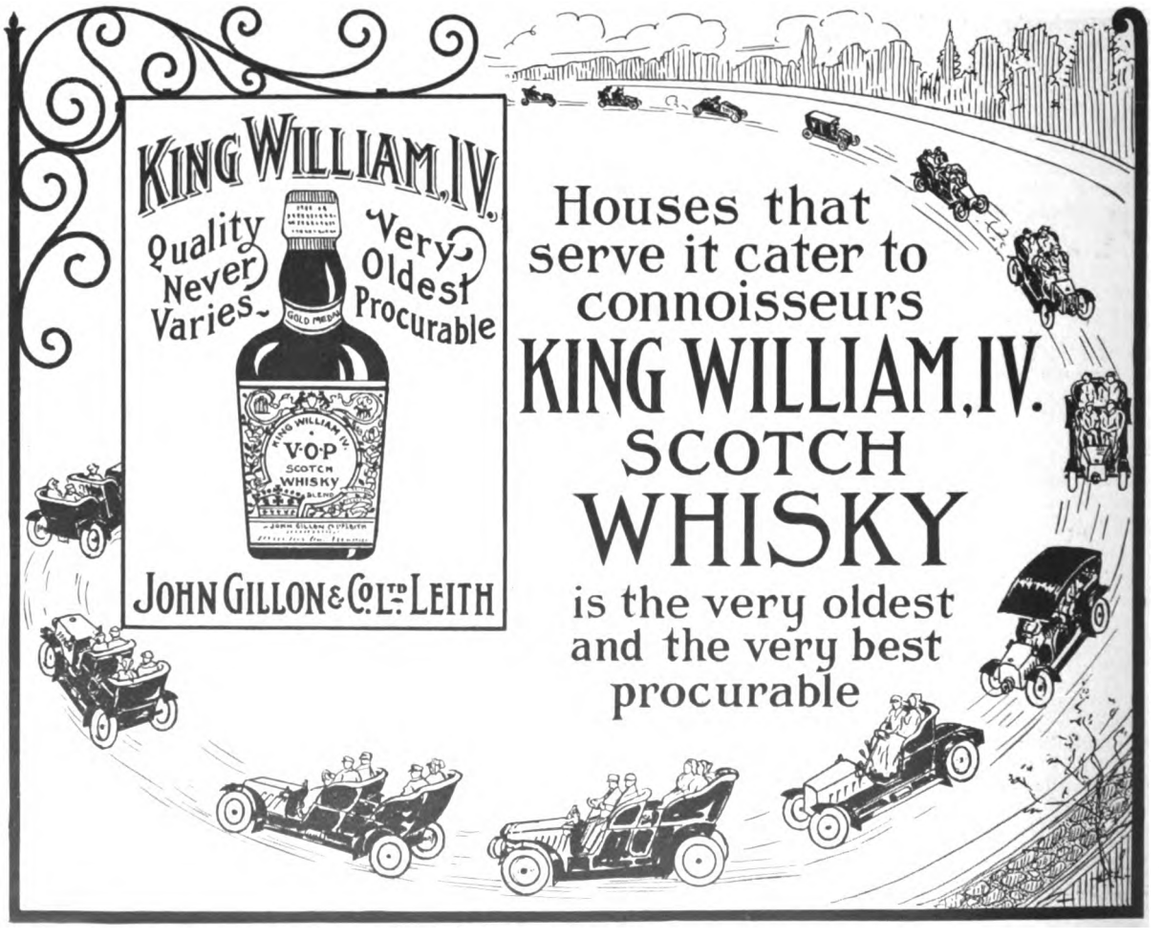
1. In a vehicle wheel rim the combination of a channel iron, a slot in said channel iron, a removable flange mounted upon a transversely split ring carrying lugs adapted to fit within said slot in normal tension resisting engagement with the end walls thereof, and a locking clamp adapted to engage said lugs and to hold them within said slot.

894,377. Tire Armor or Protector. Charles Filler, St. Johnsville, N. Y. Filed Nov. 20, 1907. Serial No. 403,056.

In combination with a vehicle wheel and a pneumatic tire arranged thereon, an armor, comprising a plurality of shoes, adapted to fit the felly and tire, of said wheel, and having their inner and opposite edges turned up, forming flanges or troughs; yieldable circular wires fitting in said troughs, or flanges, and yieldably connected at their ends by means of bolts, nuts and springs, said yieldable wires adapted to hold said shoes on said felly and tire; extensions or lugs, each provided with a vertical slot, stricken up or rigidly secured near the ends and on the outer face of said shoes; bolts passing through the slots of said extensions; nuts screwed on the threaded ends of said bolts; spiral springs, working between said extensions and said nuts, and straps having one end secured to the lug, formed on said shoes passing thence under the felly and tire of said wheel, with their opposite ends secured to the opposite lugs, said shoes provided with anti-skidding elevations stricken up or secured to the outer faces of said shoes, substantially as shown and described and for the purposes set forth.

894,426. Clutch. David E. Dolson and Elbert R. Pease, Charlotte, Mich. Filed Nov. 25, 1907. Serial No. 403,697.

1. In a clutch, the combination with a shaft, of a rotary member loosely sleeved thereon, a friction drum fixed upon the shaft, a friction band encircling the drum having one end free and the other fixed to the rotary member, a sleeve upon the shaft, a cam associated with the sleeve, a pivoted member in operative relation to the cam, a radially movable member carried by the rotary member extending in operative relation to the pivoted member, and a bell crank lever forming an operative connection between the radially movable member and the free end of the friction band.



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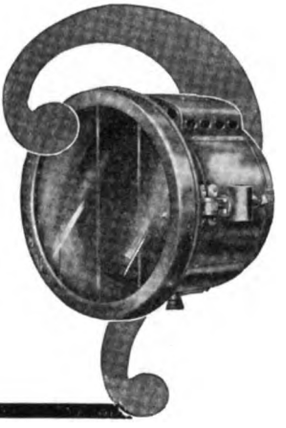
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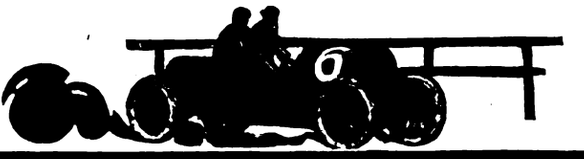
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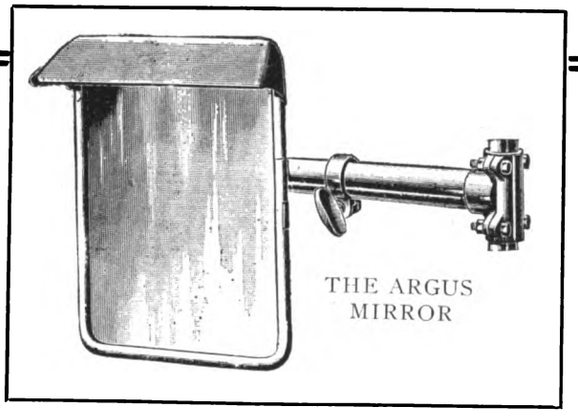
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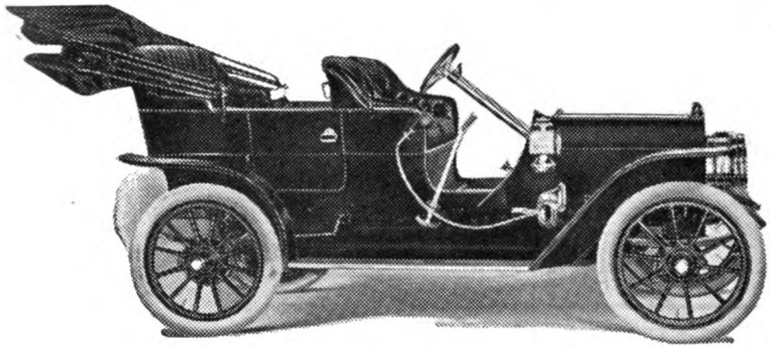
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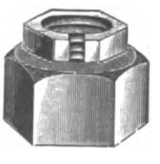
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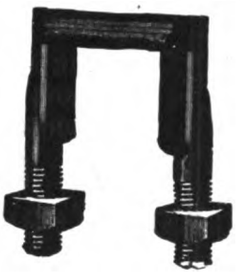
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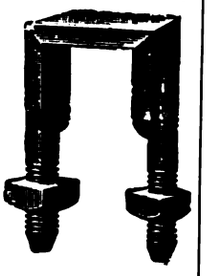
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AND KEEP GOING

Agencies in all the large cities. Catalogue B tells all about it. Write NOW.

The Spare Motor Wheel of America, Ltd.

Main Office: 236 Michigan Ave., Chicago



For Automobile Bodies, Dashes, Guards, Bonnets, Battery Boxes, Drip Pans, Mufflers, Etc.

STRONG—DURABLE
SCALELESS—RUSTLESS
SMOOTH—PAINT ADHERES FIRMLY

A Metal That's A Time and Money Saver

THE STARK ROLLING MILL COMPANY, CANTON, OHIO



NEW ADJUSTABLE "S" PIPE

A very handy wrench for inconvenient places. Drop forged steel throughout, parts carefully hardened, and are interchangeable. Has patent nut locking device at side.

Write for new circular.

THE BILLINGS & SPENCER CO., Hartford, Conn.



Buy It And Try It And Prove It Yourself



The reason the **SPLITDORF**

Common Sense Plug

is a prime favorite with motorists is because they have found it an exceedingly good Plug. Will not carbonize, short circuit or break. Gives the hottest spark with absolute certainty. A working Plug from every point. $1.00.

C. F. SPLITDORF

Walton Ave. & 138th St. Branch, 1679 Broadway New York



Give Your Car a Good Name

by using

SUPPLEMENTARY SPIRAL SPRINGS

Change a bone-shaker and a spring-breaker into an easy riding, real automobile in which you can take pride and your passengers comfort. The use of S. S. S. change a near-good car to a real good car and add the finishing touch of luxury to the best cars. Our booklet tells you all about them, and is yours for the asking. Write for it.

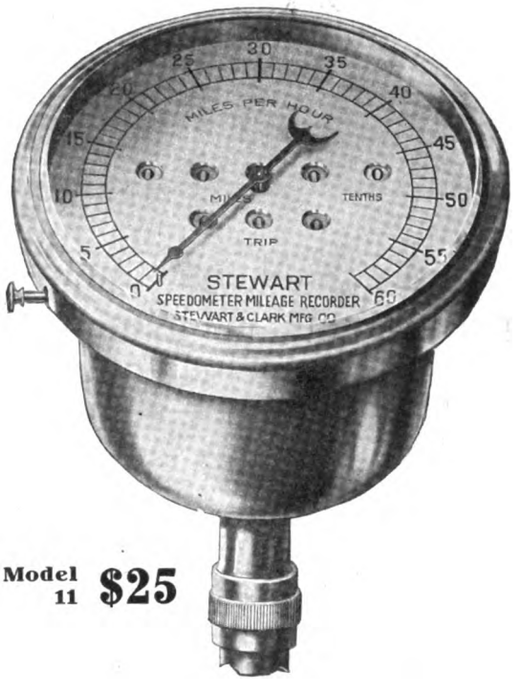
SUPPLEMENTARY SPIRAL SPRING CO., 4555 Delmar Ave. St. Louis, Mo.

New York Branch, Removed to Motor Mart Building. (Larger Quarters.)

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The New Stewart

Model 11. Destined to be the most popular, most attractive, most accurate, most satisfying, and the quickest selling speedometer ever produced.



Model 11 **$25**

Full size 4-in. model. Scale, 0 to 0 miles. Enclosed Season Odometer. Enclosed Automatic Resetting Trip Odometer. Scale 7½ inches long. Equipped with famous Stewart Flexible Shaft and Swivel Joint.

NEW CONSTRUCTION

Multipolar Induction Principle

Operating on the induction principle, utilizing the current from a multipolar generator. This construction permits the use of an indicating member of low inertia, thus insuring the most sensitive and accurate reading from 0 to 60 miles.

The needle acts from the center of the dial, which arrangement permits the use of a scale three times as long as ordinarily used, making it the most easily read of all speedometers. It is equipped with a season odometer—capacity 10,000 miles and repeat, also our new trip odometer of three dials, registering miles and tenth, and which may be reset to zero automatically by means of a push button.

The construction is of the costliest kind, every part of the same high standard used in all Stewart Speedometers and includes jewel bearings. The equipment will be the regular Stewart link-type flexible shaft and patented swivel joint, furnished with our highest priced models.

We recommend this exceptional instrument to the motorist who desires the best speedometer that money can buy — the best irrespective of price — who wants a speedometer to indicate the exact speed and correct mileage of trip and season, and do it constantly day after day and year after year.

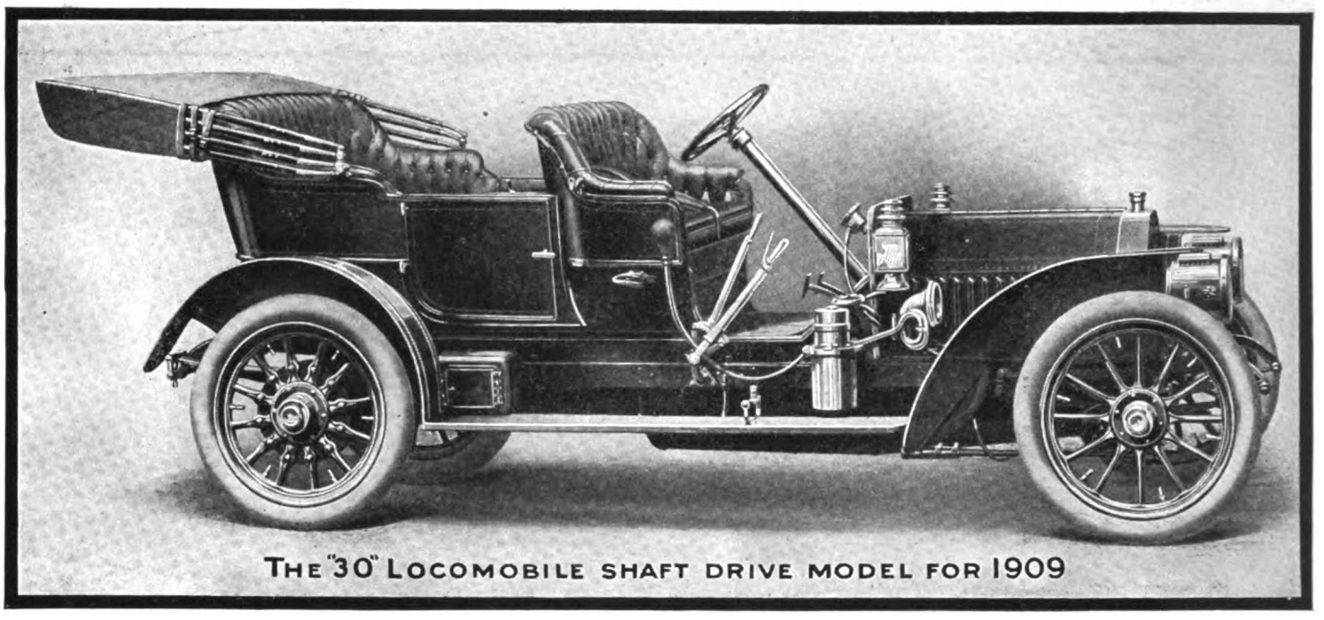
We stand back of Stewart Speedometers with a Five Year Absolute Guarantee

THE ONLY speedometer built to carry a long-term guarantee

Ready for delivery about November 15th. Send for catalog.

Stewart & Clark Mfg. Co., 509 Diversey Boulevard, Chicago, U.S.A.

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THE "30" LOCOMOBILE SHAFT DRIVE MODEL FOR 1909

THE MOTORING PUBLIC WILL BE INTERESTED IN READING THE FOLLOWING CIRCULAR ANNOUNCING **1909** LOCOMOBILE MODELS WHICH THE **LOCOMOBILE** COMPANY OF BRIDGEPORT, CONN., HAS RECENTLY SENT TO THEIR DEALERS AND CUSTOMERS:

We signalize our tenth anniversary of the production of automobiles by the announcement of two splendid models—undoubtedly the best that we have ever offered to the public.

Ten years ago the Locomobile demonstrated for the first time the wonderful possibilities of the motor car, and gave the automobile business its first great impetus. To-day the Locomobile is held in the highest esteem. It is everywhere regarded as a car of the highest quality—a car of *composite* merit, satisfactory in every respect. It is specially noted for reliability, and experts agree in rating it the most durable car on the market.

The 1909 product will enhance the high reputation the Locomobile has gained.

We announce an entirely new model "30" *Locomobile,* a five-passenger touring car intermediate in power between our "20" and our "40." It will be equipped with shaft drive.

The "40" *Locomobile* should be the logical choice of those who desire a *high powered car.* The "40" will be produced as a seven-passenger touring car, a stylish roadster, and as a closed car with Pullman Limousine or Landaulet body.

This circular will furnish advance information about 1909 Models, until our preliminary catalog is ready.

ADVANCE INFORMATION CONCERNING 1909 MODELS

"40" LOCOMOBILE.

This car is thoroughly typical of Locombile construction and is the most powerful model we have ever built. It is equipped with a four-cylinder motor of 5-inch bore and 6-inch stroke, giving about 60 horse-power on the testing stand, thus affording high speed and fine hill climbing ability. The artillery wheels are 36 inches in diameter; the tires are 36 x 4 inches front and 36 x 5 inches rear. The wheelbase is 123 inches, and the length over all is 16 feet 1 inch.

The "40" *Locomobile* is a splendid touring car for seven passengers and is notable for it beauty of line, luxurious appointments, and delightfully easy riding qualities. It is a touring car par excellence and will meet any test of endurance to which it can be subjected. *Price, with lamps and equipment,* $4,500. *Top extra.*

The "40" *Runabout,* brought out near the close of the 1908 season, will be an attractive feature of the 1909 production. The body is very attractive and accommodates four passengers, all seats being very

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comfortable and easy riding and convenient of access. The individual front seats are fixed; the rear seats may be removed or only one or both can be used, making the car available for two, three or four passengers as desired. The "40" Runabout can also be supplied with the type of body known as the "toy" or "baby" tonneau, and which enjoys considerable popularity. *Price, with standard body or "baby" tonneau, including lamps and equipment,* $4,500. *Top extra.*

The "40" Limousine and the "40" Landaulet are both beautiful high-powered closed cars. The bodies are roomy, beautiful in design, of the best possible workmanship and finish, and are equipped with extra Pullman chairs. *Prices of these closed cars announced later.*

"30" LOCOMOBILE.

This model is equipped with a four-cylinder motor of 4½-inch bore and 4½-inch stroke, giving about 38 horse-power on the testing stand. As the new model is intermediate in size between the "20" of former years and the "40" Locomobile, it is rated as a "30."

The car embodies all of the special features which have for years identified the Locomobile, such as low tension ignition; bronze engine base and gear box (much stronger than aluminum commonly used); alloy steel in the crankshaft, steering gears, transmission shafts, pressed steel frame, gears, and other important parts; heat-treated drop-forgings of our own manufacture; four-speed selective transmission; imported ball-bearings in wheels, gear box, and other important places. The wheelbase is 120 inches, yet the car can be turned in a 38-foot street. The length over all is 15 feet. The wheels are 34 inches in diameter, tires are 34 x 4 inches front and 34 x 4½ inches rear.

The body is graceful in design and very commodious, seating five adults with entire comfort. *Price of the "30" Locomobile touring car, as illustrated with lamps and equipment,* $3,500. *Top and speedometer extra.*

Another variation of the "30" Locomobile is the "30" *Runabout,* a roadster of the latest type with sharply inclined steering post and equipped with a body similar to that of the "40" Runabout, and which may be used for two, three or four passengers as desired. It will also be supplied with the "baby" tonneau. *Price, with lamps and equipment,* $3,500. *Top extra. Prices of closed cars announced later.*

A feature of the new "30" chassis is the use of shaft drive, the details of which are described in the following paragraphs:

LOCOMOBILE SHAFT DRIVE CONSTRUCTION

We have long appreciated that shaft drive has some very desirable features when applied to a car of the size of the "30" Locomobile. Our new shaft-driven car is fully equal in reliability and lasting qualities to our famous chain-driven cars, and we believe that it combines more good features than any other car on the market, whether of foreign or American design. Some of these features are as follows:

1. *Complete removal of all torsional stresses from the car axle tubes.* Distance rods, similar to those on our chain-driven cars, transmit the driving stresses to the frame and maintain parallelism of the front and rear axles. These distance rods carry the brakes, and their rear ends are free to turn on the axle tubes. Consequently when the springs are depressed the distance rods turn on the axles and do not twist them. Also, when the brakes are applied the braking stresses are not communicated to the rear axle or driving mechanism. Also the power is not transmitted through the springs.

The spring chairs are also free to turn on the axle tubes, and thus the only duty of the springs is to carry the load. This arrangement makes the Locomobile shaft drive car a very easy riding one, in addition to removing all torsional stresses from the rear axle tubes.

All brakes are enclosed and protected.

2. *Exceptionally strong rear axle construction.* The axle tubes are of alloy steel with inner ends forced into the openings of the differential housings by hydraulic pressure and securely riveted in place. Unlike many or most cars, no brazing whatever is used. It will be noted that our form of construction would be the strongest possible in any case, but owing to the removal of all torsional stresses from the tubes it is really very much stronger than necessary. There is no tendency for the tubes to loosen in the housing.

3. *Straight line drive.* When the car is loaded the propeller shaft is almost exactly horizontal—thus the power of the motor is transmitted in a straight unbroken line to the rear axle, thus eliminating loss of power through the universal joints.

4. *Complete universal action.* The propeller shaft is not only horizontal, but is provided with a universal joint at the front end and a *slip universal joint* at the rear end. The latter compensates for any change in distance between the rear axle center and the gear box. The two universal joints compensate for all other stresses as well, so that the transmission of power from the motor to the rear axle is perfectly accomplished without any binding or straining under any road conditions. As the propeller shaft is horizontal, there is very little action on the part of the universal joints, and very little power absorbed by them—furthermore, as the joints are of the best construction, fully protected and lubricated, the *wear* is reduced to a minimum.

5. *Flexible drive.* A torsion rod is provided to overcome the torque reaction of the bevel driving gears. The rear end of this rod is made fast to the differential housing and the front end is connected to the cross member of the chassis frame by a spring suspension. When the car is started in either direction the springs are compressed and the torque reactions are absorbed, reducing the tendency to raise the body when the car is started. Thus the drive from the motor to the rear wheels is a flexible one—a most desirable feature.

6. *Truss rods.* Diagonal tension rods extend from the lower part of the differential housing to the outer extremities of the rear axle tubes. These truss rods transmit the stresses to the wheels instead of permitting them to be concentrated at the center of the axle. This form of construction produces an axle of moderate weight and maximum strength.

7. *Excellent design for driving axles.* The driving axles are of the floating type and rotate inside of the axle tubes. As the weight is all carried on the tubes, the axles only have to transmit the power. The inner ends have a square fit into the differential bevel gears and the outer ends are in the form of dogs or jaw clutches integral with the axles. These engage with the hubs of the wheels, affording an absolutely positive drive and at the same time making it possible to remove the driving axles at any time by simply removing the hub caps.

Summary. It will be seen that the Locomobile shaft drive construction runs very nearly parallel to the Locomobile chain drive construction, and that every weak spot in the shaft drive has been studied and overcome. The most exhaustive road tests have proven most conclusively the durability and lasting qualities of the new Locomobile shaft drive.

LOW TENSION IGNITION

Locomobile low tension ignition adopted in 1905 will be continued. We have had four years' experience with high tension ignition and an equally long trial of low tension ignition, and the results indicate that the latter is far superior in reliability. The Locomobile low tension system differs from the ordinary make-and-break on account of the simplicity of the design and the use of iridium contacts, which does away with frequent and unnecessary timing of the igniters. Locomobile low tension ignition is superior to any form of jump spark on account of the fact that the electrical problem is infinitely more simple and enables the simplest type of magneto to be employed. Furthermore, our system is superior to the high tension ignition because there is no danger from short-circuiting and no complicated wiring—nothing but a few feet of low tension cable.

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THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

$2000

Touring Car **Roadster**
Limousine **Landaulet**

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.

ROCHESTER, N. Y.

Member A. L. A. M.

Matheson

1909

Prices Reduced $1,000

And the Reasons Why

Heretofore the Matheson Car has been considered the highest priced as well as the highest grade American car on the market.

Millions of dollars worth of these cars have been delivered to customers who could afford to pay the higher price for the best.

Many other purchasers have been persuaded that some of the lower priced cars have been "just as good." Matheson owners who have used other makes of cars have answered that question satisfactorily. Send for their letters, which we have done up in a book.

In order, therefore, to still maintain the unequalled quality of the Matheson Car and at the same time give customers this magnificent car at the price of the cheaper cars, the makers have figured that by doubling the factory output and selling at a much closer margin of profit, the price of the Matheson Car equipped with Touring, Landaulet or Limousine bodies, could be cut $1,000, and the same chassis, equipped with Roadster or Tourabout bodies, cut $650.

Accordingly, the Company's working capital has been increased by $350,000, and after October 11, 1908, the purchaser can buy a genuine Matheson Car, the very finest of all motor cars of either European or American make, at the makers' former prices to the agent or dealer; namely:

	New Price	Former Price
50 H. P. 1909 Touring Car	$4,500	$5,500
50 H. P. 1909 Roadster	4,350	5,000
50 H. P. 1909 Tourabout	4,350	5,000
50 H. P. 1909 Limousine	5,500	6,500
50 H. P. 1909 Landaulet	5,500	6,500

VICTORIES

The great string of Matheson victories in the important speed, hill climbing and endurance contests of the past seasons, in competition with the greatest cars of Europe and America, can leave no room for doubt that the Matheson car has no peer on any market to-day.

GUARANTY

Every Matheson is guaranteed for 365 days. (Notice that most other cars are guaranteed for 60 to 90 days only.)

MATHESON AUTOMOBILE COMPANY

Main Sales Office, 1886-1888 Broadway, New York City

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FRANKLIN

Weight is what wears out tires.

In a paper read before the French Society of Civil Engineers, M. A. Michelin, the noted tire expert, says:

"If the weight of an automobile is increased five per cent., it increases the wear and tear on tires fifteen per cent."

This means that the average water-cooled automobile with its extra weight of plumbing apparatus—and weighing, as it does, a third more than a Franklin model of the same capacity—wears out tires just twice as fast.

The light weight of Franklin automobiles and their large wheels and tires eliminate the tire bugbear from automobiling. No other automobiles have such large wheels and tires in proportion to their weight.

Model D weighs only 2100 pounds, yet it has the same size wheels and tires as other automobiles weighing 3200 pounds and upward. Model H has larger wheels and tires than some automobiles a thousand pounds heavier. The larger the tires, the greater their wearing surface and the longer they last. But no tires made are large enough to offset the wear and tear put upon them by the bulky heavy water-cooled machines.

You cannot reduce tire expense nor fuel expense to a reasonable figure in a heavy automobile.

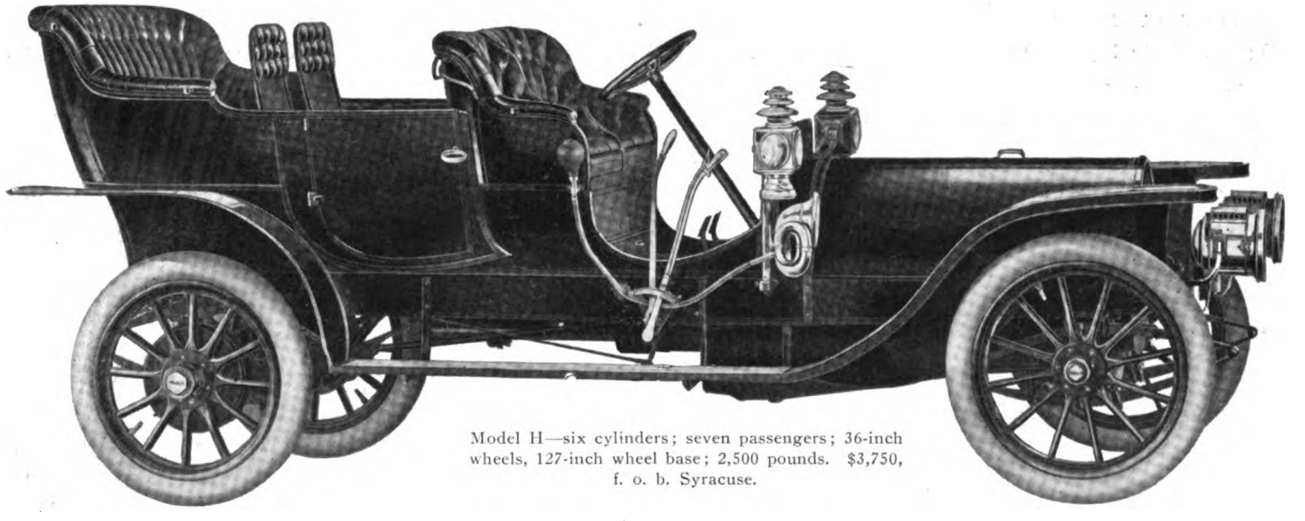
You cannot get the same refinement and simplicity—the combination of power and strength with light weight except through Franklin air-cooling.

What would it mean to you to get rid of tire trouble and at the same time cut the bills down half? Nothing could induce a man who has once known the comfort and security of the light-weight air-cooled Franklin to drive or own a heavy automobile.

Before you buy, think of tires; and of all the burden and trouble that go with useless weight.

Write for the catalogue describing the complete line of Franklin automobiles, four and six cylinders, 18, 28 and 42 h. p., runabouts, touring-cars, town-cars, broughams, landaulets. limousines.

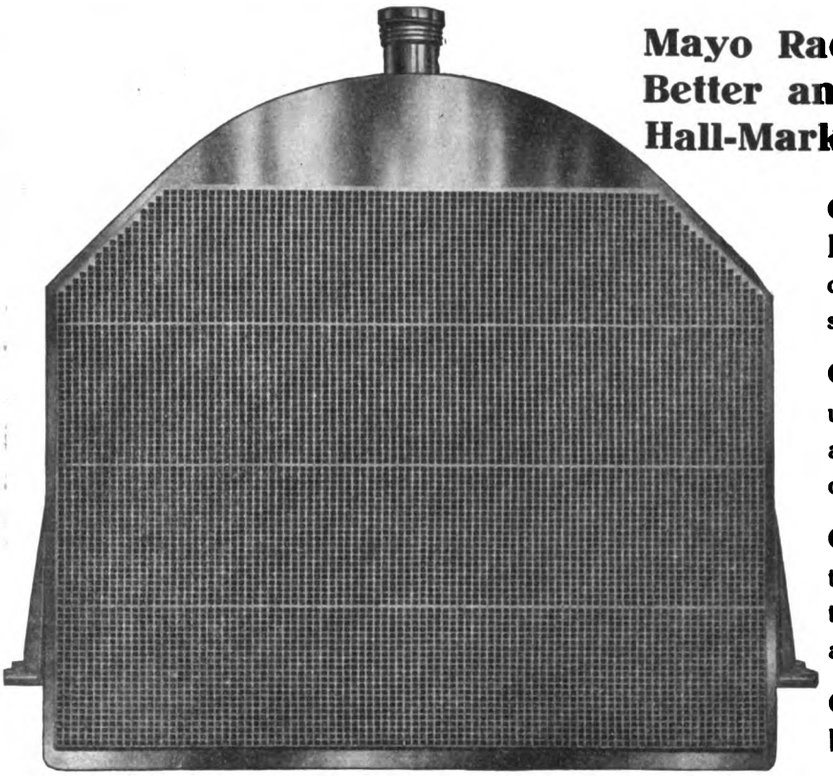
H. H. FRANKLIN MANUFACTURING CO., Syracuse, N. Y.



Model H—six cylinders; seven passengers; 36-inch wheels, 127-inch wheel base; 2,500 pounds. $3,750, f. o. b. Syracuse.

Model H is the most refined six-cylinder automobile in the world—powerful, smooth, simple. There is not another large touring-car so comfortable and safe to ride in, and so economical to use. And in appearance and details it has no superior.

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Mayo Radiators Make a Good Car Better and Their Use on a Car is a Hall-Mark of Quality.

¶ Mayo Radiators are made in a quality shop. In their construction no expense is spared, no crude methods obtain. In their use complete satisfaction results.

¶ Mayo Radiators perform their functions well under all conditions—and conditions at times are exacting. It is at just such times that Mayo quality asserts itself.

¶ The engineer can eliminate possible radiator troubles from his calculations by the adoption of the best possible radiator. The test of years and use has proved that we make it.

¶ Our capacity limit on new contracts is rapidly being reached.

MAYO RADIATOR COMPANY, New Haven, Conn.

THE OLDSMOBILE

is not only the **WORLD'S BEST CAR**, but one of its oldest and most famous. It gives prestige to both owners and agents.

Model M	Model MR	Model Z
Touring Car, Fully Equipped,	"Flying Roadster," Fully Equipped,	6-Cylinder, 130-inch Wheel Base,
$2,750	$2,750	$4,200

OLDS MOTOR WORKS, Lansing, Mich., U. S. A.

Members A. L. A. M.

Canadian Trade supplied from Oldsmobile Co. of Canada, Toronto, Ontario.

Empire Tires

WEAR LONGEST

EMPIRE AUTOMOBILE TIRE COMPANY, Trenton, N. J.

New York, 148 Chambers St., and Broadway and 73d St.; Boston, 292 Devonshire St.; Buffalo, 724 Main St.; Fobes Auto Supply Co., Portland, Ore.; Fobes Auto Supply Co., Seattle, Wash.; Waite Auto Supply Co., Providence, R. I.; Chicago, 1301 Michigan Ave.; Atlanta, Ga., Dunham Rubber Co.; Denver Auto Goods Co., Denver, Colo.; Penn Auto Supply Co., Philadelphia, Pa.; Savell Rubber Co., Jacksonville, Fla.; Empire Tire & Rubber Co., Minneapolis, Minn.; The Motor Supply Agency Co., 1246 Euclid Ave., Cleveland, O.; The Consumers Auto Supply Co., 7th Ave. & Smithfield St., Pittsburg, Pa.

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SUPPLEMENTARY SPIRAL SPRINGS

¶Cars are like men in that it takes a study of them to realize their possibilities.

¶We have made a study of the spring question and can help you realize to the full the easy-riding possibilities of your car. The use of Supplementary Spiral Springs are a duty you owe to yourself. They provide spring insurance and spring comfort, effectually guarding against shocks to your pocketbook and passengers.

¶Many thousands of the S. S. S. are in use by just as many satisfied users. Better be one of them NOW.

¶Your dealer or garage can fit you out in a few hours' time.

SUPPLEMENTARY SPIRAL SPRING CO.

Motor Mart, New York — 4555 Delmar Ave., St. Louis, Mo.

THE RIGHT OF WAY

is assured if your car is equipped with a

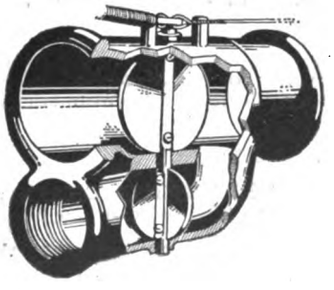


1909 Gabriel Horn

Its rich, mellow tone warns without frightening, A three note tone which by a new device rises from a sweet musical tone for city use to a penetrating warning for country riding, at the will of the operator. Adopted exclusively by the Crowned Heads of Europe as a royal instrument for royalty's use.

NEW 1909 GABRIEL CUT-OUT VALVE

relieves engine of back pressure, guaranteed not to stick under any condition and is of great assistance in hill-climbing or over rough roads. Made to fit 1" to 2½" exhaust pipe.



Write for catalog and prices.

Gabriel Horn Mfg. Co., 1417 E. 40th St. CLEVELAND, O.

The Truth About the Reduction in Tires

Some tire manufacturers, working in collusion, tell you that they are able to reduce the prices of their tires owing to a reduction in the cost of crude rubber.

It is a peculiar fact, however, that **other rubber goods** manufactured by these same firms **have not changed in price** for years.

Another of their arguments is "Increased Capacity"—and right here it may be interesting to note the prices of these concerns on September 1st., 1906, as compared with the present figures:

	Sept. 1, 1906.	Sept. 1. 1908.
28 x 3 in. tire complete	$34.32	$17.55
30 x 3½ in. tire complete	48.39	27.25
32 x 4 in. tire complete	60.00	38.80
32 x 4½ in. tire complete	73.35	49.20

Do you think increased capacity should make this difference? No!

Could the reduction be brought about through a reduction in the price of crude rubber? Yes. **But has rubber really been reduced?**

Crude Fine Up-River Para Rubber is at least **20 per cent. higher to-day than it has been any time for the past twelve months.** PECULIAR CONTRADICTION, isn't it? NOW FOR THE FACTS.

On August 12th, 1908, we refused to accept the proposition advanced by our competitors, to **muzzle free competition** in the tire trade by agreeing to adhere to a uniform discount—a scheme by which they attempted to recover from **dealers** and **consumers** and **losses entailed** by the conduct of their business in other quarters.

We were opposed to the Tire Pool; it was **we who fought** it and saw it "BUST" on September 1st, 1906, and we are still **opposed to every kind of tire combination.**

This short statement tells the TRUE story and the TRUE PURPOSE of the recent price reduction, which is to

Drive Out Competition

—Ajax competition we might add.

At the present prices of raw material neither the product of our competitors nor Ajax tires can be sold at the profit that is **legitimately** due the manufacturer. But in offering our own tires at correspondingly reduced prices we simply fight back with the **pocketbook argument.**

As far as our competitors are concerned, we warn the tire using public to

Look Out for the Cut in Quality

that usually accompanies the cut in price.

AJAX TIRES

ARE GUARANTEED FOR 5,000 MILES

A certificate signed by the President of our Company, and bearing the number of the tire, accompanies **every tire** sold, and on the back of the certificate is a table of adjustments by which every user of Ajax tires can compute the charge should a replacement be necessary.

There is no better recommendation for a tire than our 5,000 mile guarantee, because it puts the **burden of proof upon us** and we MAKE GOOD.

"See our exhibit at Grand Central Palace Show, opening in New York on New Years Eve."

Ajax-Grieb Rubber Co.

FACTORIES: TRENTON, NEW JERSEY

BRANCHES:

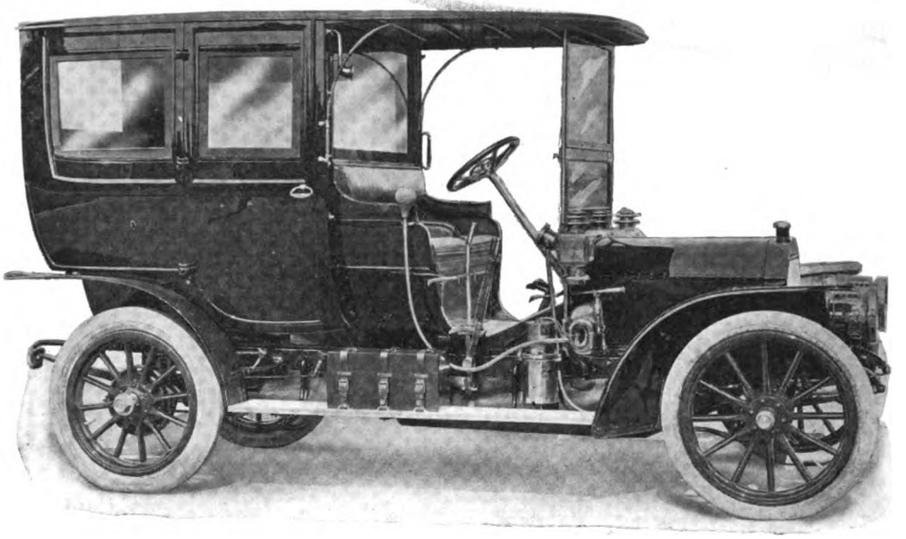
N. Y. City, 57th St. and Broadway.
Boston, 819a Boylston St.
Philadelphia, 316 No. Broad St.
Detroit, 743 Woodward Ave.
Chicago, 1418 Michigan Ave.
Kansas City, Mo., 1422 Grand Ave.
Denver, Colo., 1529 Cleveland Pl.
Seattle, 1102 Broadway.
San Francisco, 438 Market St.
Los Angeles, 1038 So. Main St.

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Columbia

1909 Models of Gasoline Touring Cars (5 passengers), Runabouts (3 passengers), Roadsters (4 passengers), Limousines (7 passengers) and Landaulets (7 passengers); also Victoria Phaeton now ready for delivery

Advance Circulars Giving Detailed Descriptions Mailed on Application



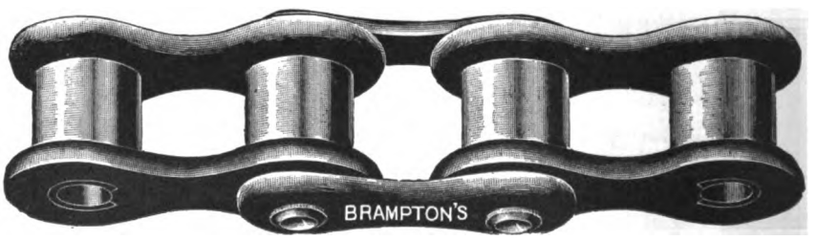
Agents Wanted in Unoccupied Territory

Mark XLVIII, 4 cylinder, 29 H. P. Limousine (seating five inside and two outside) Equipped Ready to Run, $3,750.00

Manufactured by ELECTRIC VEHICLE COMPANY, Hartford, Conn.

Members A. L. A. M.

THE BRAMPTON MOTOR CHAIN



All side plates on both sides of the Brampton Chain are stamped "BRAMPTON."

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement. THE BRAMPTON CHAIN is made of self-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like THE CELEBRATED BRAMPTON CHAIN because some of the other chain makers began to copy the design and shape of the BRAMPTON CHAIN links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the BRAMPTON CHAIN than ever before. These chains somewhat resemble the BRAMPTON in appearance, but the manufacturers of such chains have been unable to copy the material —self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the BRAMPTON MOTOR CHAIN in the past ten years.—"ENUF SED."

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the BRAMPTON FILLS THE BILL, and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size. We have in stock chains to fit all American and foreign cars.

YOUR 1909 CAR

You can have the new car that you order fitted with the CELEBRATED BRAMPTON CHAIN if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.

Agents wanted in unoccupied territory. Catalog on request.

CHAS. E. MILLER, Manufacturer, Jobber, Exporter and Importer
Main Office: 97-99-101 Reade Street, New York

BRANCHES: 54th St. and 8th Ave., New York. 202-204 Columbus Ave., Boston, Mass. 318-320 N. Broad St., Philadelphia, Pa. 227½-229 Jefferson Ave., Detroit. 1829 Euclid Ave., Cleveland, O. 1392 Bedford Ave., Brooklyn, N. Y. 824 Main St., Buffalo.

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CAUTION

The demand for PIRELLI CABLE (Italian Ignition Wire—rubber covered) has become so general, that competitors have thrown all kinds of imitations on the market.

In order that the automobile manufacturers as well as the users may be safeguarded against worthless imitations, we point out

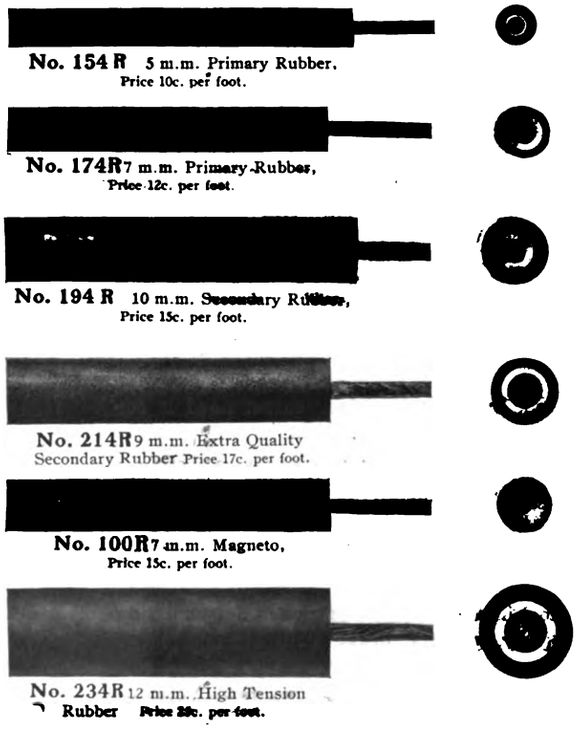
HOW TO TELL THE GENUINE

Cut off a section—an inch or less—from the cable you are investigating. Pull it off the wires and cut it open lengthwise. **If you can separate the different layers of vulcanized rubber, or if the rubber cracks from bending it back and forth and squeezing it, YOU HAVE AN IMITATION.**

The reason **PIRELLI CABLE will not crack, is because it is not moulded, but drawn in endless lengths, and all the layers of rubber are vulcanized as a unit.** Some manufactures in order to hide the mould marks, cover it up with a sheet of rubber before vulcanizing.

The Genuine PIRELLI Costs No More than the Imitations

therefore you have no reason to be imposed upon. We will be pleased to send a small section of **Pirelli Cable** to any one interested—for comparison. These are the different sizes for different uses:



No. 154 R 5 m.m. Primary Rubber, Price 10c. per foot.

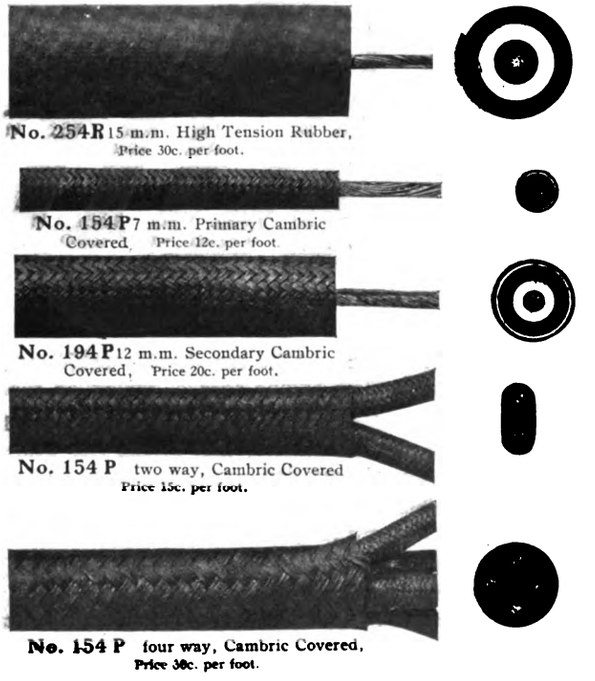
No. 174R 7 m.m. Primary Rubber, Price 12c. per foot.

No. 194 R 10 m.m. Secondary Rubber, Price 15c. per foot.

No. 214R 9 m.m. Extra Quality Secondary Rubber Price 17c. per foot.

No. 100R 7 m.m. Magneto, Price 15c. per foot.

No. 234R 12 m.m. High Tension Rubber Price 20c. per foot.



No. 254R 15 m.m. High Tension Rubber, Price 30c. per foot.

No. 154P 7 m.m. Primary Cambric Covered, Price 12c. per foot.

No. 194P 12 m.m. Secondary Cambric Covered, Price 20c. per foot.

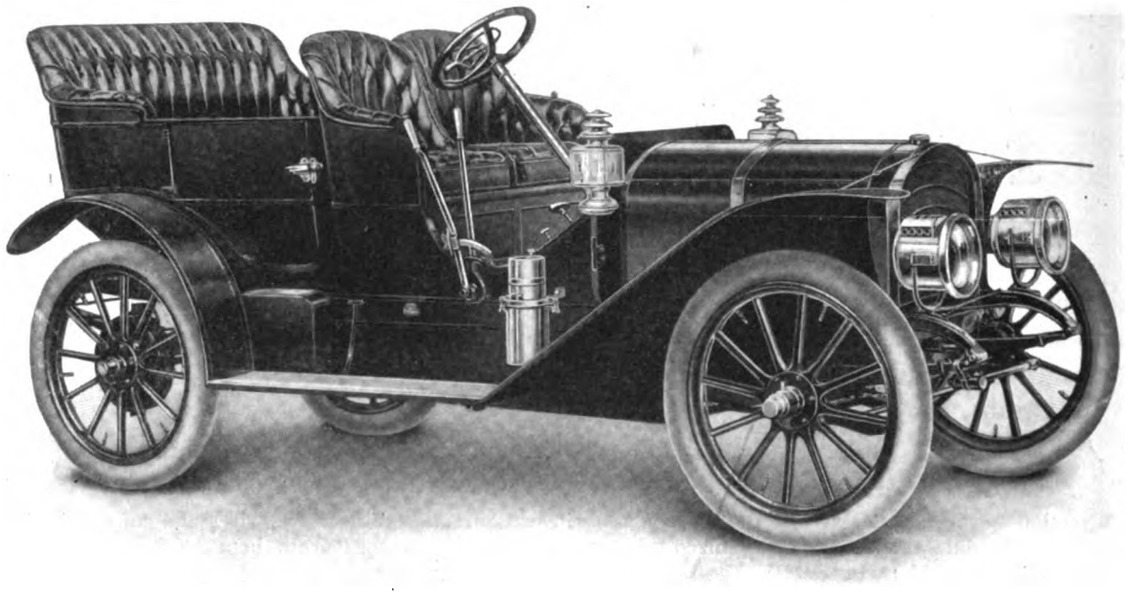
No. 154 P two way, Cambric Covered Price 15c. per foot.

No. 154 P four way, Cambric Covered, Price 30c. per foot.

TO AVOID IGNITION TROUBLE, SPECIFY PIRELLI WIRE.

PIRELLI & CO., 296 Broadway, New York

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Model 34, Price $2,250

Two Vital Features of This Car.

THE offset crank shaft and straight line drive, more than any other features are responsible for the unusual efficiency, the high delivered power and the wonderful flexibility of control of this four cylinder, five passenger

Rambler

Most automobiles can develop sufficient power at high speed, but the owner's greatest need is for power at slow engine speeds—power on the hills—in stretches of sand and mud.

The offset crank shaft and stright line drive give flexibility, allow more high gear work without overtaxing the engine; that means less gear changing; less clutch manipulation—therefore ease and economy of operation.

This car can be throttled down to operate smoothly and steadily on high gear at three miles an hour. Or it can run forty-five miles an hour.

These features besides those big wheels, big tires, long wheel base, accessible engine, safety starting device, reinforced tubular axle, finished parts of genuine mahogany, perfect brake control, and large luxurious body, make this a car of highest quality.

Ready for immediate delivery. Please write for details now.

Thomas B. Jeffery & Company, Main Office and Factory: **Kenosha, Wis.**

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, Philadelphia, San Francisco.

Representatives in all leading cities.

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, October 29, 1908. No. 5

HOADLEY HAS A MERGER SCHEME

Prominent Makers Solicited for "Options" —Promoter Encounters Difficulties in the Terms Asked.

Quite aside from the companies that have been prominently mentioned as about to join in a huge consolidation, a number of the largest makers have for some time been solicited for "options" by various Wall street gentlemen whose business it is to consolidate and juggle with sundry and various industries with the result that these same gentry have been treated to some interesting surprises. After selecting a list of the most promising plants, Joseph H. Hoadley, of the firm of Hoadley & Knight, which has New York City as its headquarters, has interviewed their owners with a most attractive appearing plan for a merger that is calculated to make everybody connected with it "rich beyond the dreams of avarice." Hoadley knows the economic advantages of consolidation, especially for himself, and is fluent with figures and roseate verbal pictures of what it can accomplish for the manufacturer who finds himself annoyed by competition.

As guiding spirit in the fragrant International Power Co., the stock of which was removed from the New York stock exchange list, he is familiar with large corporation matters. It is true that one of his lieutenants, after giving orders to sell 3,000 shares of the stock, neglected to arrange for its being bought in at the same time, so that without a prepared buyer the shares fell a full 100 points, causing some commotion at the time, but such incidents have simply contributed to an enrichment of Hoadley's fund of business experience, and but the better prepare him for the future.

In seeking his "options," however, it is understood that he has encountered a most obstinate spirit on the part of the automobile manufacturers concerning the terms that they will accept for their properties. Where in other lines it has been possible to exchange magnificently engraved pieces of parchment paper for real factories, goods, patents and materials, the stubborn and hard-hearted—not to say hard-headed—manufacturers of motor cars have insisted on discussing in terms of actual dollars, thus embarrassing the negotiations in no small degree. The stiff prices asked would not in themselves constitute a difficulty were it not that the payment would have to be in cash or satisfactory guaranteed or mortgage notes, the cold insistence on which has been made with discouraging firmness.

In fact throughout the list, this demand has been so general that the consolidation scheme has latterly halted to some extent, but should the makers later find themselves in a position where they want to be "saved" and will relax from their absurd position, Hoadley and others of his kind will cheerfully take up the work.

McCord Moves from Chicago to Detroit.

McCord & Co., of Chicago, Ill., are removing that portion of their factory devoted to automobile supplies, to Detroit, Mich. The action follows troubles with the Windy City's tinsmiths' union. Factory space has been obtained from the Hugh Wallace Co. in Detroit, where the work formerly carried on at the Kinzie street plant in Chicago will be transferred as soon as possible.

American Automart in Bankruptcy.

Bankruptcy proceedings were instituted this week against Max Wineburgh, who has been doing business as the American Automart, at 1621 Broadway, New York City. The liabilities are estimated at $10,000, and the stock of automobile supplies in the store and the garage are said to about equal this amount.

Mercury to be Made in Hillsdale.

The Mercury Motor Car Co. has been organized at Hillsdale, Mich., with $50,000 capital, and has its first cars under construction. J. W. Raymond is the president and general manager of the concern.

NOT WELCOME AT PALACE SHOW

No Space for the Two Makers at Odds with the Licensed Association—Ford's Prompt Ultimatum.

Instead of a warm welcome for manufacturers who were this year omitted from the roster of exhibitors at the Madison Square Garden show to be given by the Association of Licensed Automobile Manufacturers, the "independent" makers have manifested a strong dislike for their society in the Grand Central Palace show of the American Motor Car Manufacturers' Association. Tentative efforts to provide for them in the latter exhibition after their relations with the A. L. A. M. had become so strained as to make it apparent that they would not be awarded space in the Licensed affair, aroused vigorous protest from more than one of the "independent"makers, and resulted in an ultimatum to the show management that was so strong as to stop further consideration along such lines.

Without mincing matters, Henry Ford, president of the Ford Motor Co., of Detroit, Mich., came out with a declaration that if the two companies who were no longer to be exhibitors in the Licensed fold were given space at the Palace show, his company would be conspicuously absent and that the management might sell his space to somebody else. Ford's position in the "independent" field gives force to his wishes, and the plan to make room for the newcomers was quickly abandoned. As a consequence the two companies will for the first time in their history, be unrepresented at either of the big New York shows.

Hall Leaves the Badger Brass.

Charles M. Hall, who has for several years represented the Badger Brass Mfg. Co., of Kenosha, Wis., on the road, has parted company with that concern. He is to be general sales manager of the American Lamp Co., of Detroit, Mich.

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The Week's Incorporations.

Mansfield, O.—Standard Auto and Transit Co., under Ohio laws, with $10,000 capital.

Pittsburg, Pa.—Mutual Motor Car Co., under Pennsylvania laws, with $10,000 capital.

Philadelphia, Pa.—S. & G. Motor Car Co., under Pennsylvania laws, with $20,000 capital.

Dayton, O.—Dayton Motor Car Co., under Ohio laws, increases capital from $50,000 to $500,000.

Cleveland, O.—Derain Motor Co., under Ohio laws, with $30,000 capital. Corporators—J. J. Murphy and others.

Los Angeles, Cal.—Los Angeles Automobile Livery and Sight-Seeing Co., under California laws, with $75,000 capital.

Milwaukee, Wis.—Gove Automobile Co. under Wisconsin laws, with $5,000 capital. Corporators—Richard Gove, E. G. Gove and J. Carroll.

Indianapolis, Ind.—Best Automobile Co., The, under Indiana laws, with $20,000 capital. Corporators—Edgar Updyke, William N. Gates and Edward E. Gates.

Oklahoma City, Okla.—Tulsa Motor Car Co., under Oklahoma laws, with $10,000 capital. Corporators—T. C. Ferguson, C. L. Ferguson and J. B. Bartlett.

Newark, N. J.—Jackson Motor Car Co., under New Jersey laws with $100,000 capital. Corporators—Charles E. Oathout, Newton A. Merritt and Walter F. White.

Los Angeles, Cal.—Los Angeles Motor Car Co., under California laws, with $50,000 capital. Corporators—Ralph J. Leavitt, La Bree Leavitt and Nathan P. Bundy.

Minneapolis, Minn.—Bingham-Jordan Automobile Co., The, under Minnesota laws, with $50,000 capital. Corporators—George Bingham, T. C. Jordan and Eva Bingham.

Elmira, N. Y.—Southern Tier Motor Co., under New York laws, with $25,000 capgines. Corporators—G. W. Shoemaker, C. S. Lattin, Elmira; H. K. Crandall, Athens, Pa.

Denver, Col.—Independent Automobile Repair Co. under Colorado laws, with $5,000 capital. Corporators—John E. Button, George E. Siegel and James L. Glendining.

Nashville, Tenn.—Tennessee Auto Co., under Tennessee laws, with $13,000 capital. Corporators—J. K. Polk, Jr., J. J. Vertrees, Jr., W. O. Vertrees, Buford Duke and W. J. Wallace.

New York City, N. Y.—International Taximeter Motor Cab Co., under New Jersey laws, with $100.000 capital. Corporators—M. Sergey Friede, Joseph Thomas and John R. Turner.

Winston-Salem, N. C.—H. I. Riggins Livery Co., under North Carolina laws, with $100,000 capital; to deal in and rent automobiles. Corporators—H. I. Riggins, Swift Hooper and W. G. Crawford.

Los Angeles, Cal.—Road-Runner Auto Co., under California laws, with $1,500,000 capital; subscribed, $5,000. Corporators—C. A. Markwell, M. H. Magie, M. D. L. Scott, A. E. Yerkes and John D. Works.

Cleveland, O.—Auto Purchasing and Exchange Co. The, under Ohio laws, with $10,000 capital. Corporators—Francis J. Wallace, J. C. Heald, C. A. Hall, M. H. Castle and Charles C. Clarke.

New York City, N. Y.—Non-Fluid Oil Co., under New York laws, with $50,000 capital. Corporators—Thomas A. Matthews, Walter F. Kimball and Frederick J. Barnes, 14 Church street, New York City.

New York City, N. Y.—Automobile Tire Co., under New York laws, with $10,000 capital. Corporators—Edward C. Griffith and Mary P. Griffith, 1584 Broadway; Geo. L. Lewis, 42 Broadway, New York City.

Boston, Mass.—G. H. Pixley Co., under Massachusetts laws, with $50,000 capital; general automobile business. Corporators—C. H. Tebbetts, president; Marshfield, Mass.; G. H. Pixley, treasurer, Dorchester, Mass.

Columbus, O.—Broad-Oak Automobile Co., The, under Ohio laws, with $10,000 capital; to trade in automobiles. Corporators—S. W. Knouse, M. F. Loofbourrow, O. W. Loofbourrow, D. T. Hock and Charles Pavey.

Bridgeport, Conn.—Blue Ribbon Garage, The, under Connecticut laws with $10,000 capital. Corporators—Johannes Schiott, William E. Seeley and John T. King; C. A. Clark, president, and Julia G. Hoyt, secretary and treasurer.

Denver, Col.—Elkhart Motor Co., The, under Colorado laws, with $10,000 capital. Corporators—Martin E. Crane, Willard W. Sterling and Charles L. Monger, of Elkhart, Ind.; Augustus J. Sears and Wilford M. Oleen, of Denver, Col.

Uppercu Buys Cadillac's Agency.

By the sale of all the capital stock of the Detroit-Cadillac Motor Car Co., of New York City, to Inglis M. Uppercu, the latter on Tuesday, the 27th inst., became the company's proprietor and will hereafter direct its affairs. The concern has the New York City agency for all the lines of the Cadillac Motor Car Co., of Detroit, Mich., which latter company owned the entire control until purchased by Uppercu. The new owner is well known to the trade as the secretary and treasurer of the Motor Car Co. of New Jersey, having its headquarters in Newark, N. J.

Carrying out plans previously formulated by the company, Uppercu will assume the lease of the new salesroom and garage at Broadway and Fifty-seventh street, which will be opened about November 1. Ernest H. Brandt, who has been the manager of the company, is now secretary and general manager, while Uppercu is president and treasurer.

In the Retail World.

North Bend, Neb., boasts its first garage. George C. McVicker and Mason Howard are the proprietors.

The Wisconsin Automobile Exchange, of Milwaukee, Wis., is building a new garage. It is located at 241-3 Wisconsin street.

Hampton, Ia., is to have an automobile supply station and garage. T. C. Miller will be in charge, and C. F. Roemer will be associated with him financially.

E. De Camp has taken the building formerly occupied by the Livingston Motor Co., at 284 Halsey street, Newark, N. J. He will operate it as a garage.

The Borderwisch Automobile Co., of Dayton, O., has filed a certificate with the secretary of state changing its name. It is now the Ohio Automobile Co.

Work has commenced on the new Moriarty garage in Kansas City. The reinforced concrete, three-story building is being erected at 1508-10 Grand avenue.

Charles Bauch has leased a garage building which is being put up in Maquoketa, Ia. The structure will be finished on December 1, when Bauch will open for business.

The business of the Jamaica Plain Garage Co., on Seaverns avenue, Jamaica Plain, Mass., has been bought by Samuel Payson. The new proprietor will shortly erect a larger garage building.

William A. Arnold and W. E. Schmick have formed an automobile supply company in Hamburg, Pa. It will be known as the Hamburg Motor Supply Co., and will soon erect a large garage.

F. L. Thomas has been made permanent branch manager of the Franklin Automobile Co., 1450 Michigan avenue, Chicago, Ill. He has for some time been occupying the position of acting manager.

A Philadelphia branch of the Olds Motor Works, of Lansing, Mich., is being opened on North Broad street. Sub-branches are to be established in the smaller cities and towns in the territory assigned to the Quaker City office.

The Hills Motor Car Co., formerly located at 130 North Broad street, Philadelphia, Pa., has changed its location to a larger establishment at 604-6 North Broad street. The garage and repair shop will remain at 246 North Juniper street.

The Johnson Auto Co., of Vincennes, Ind., of which M. T. Johnson, local automobile dealer is the leading spirit, has planned the erection of a large garage for livery and storage. It will be two stories high and will have a competent repair shop.

Nute & Keena, Seattle, Wash., have secured the northeast corner of Bellevue avenue and East Pike street for a one-story concrete garage and automobile salesroom. The structure is planned to provide for the later addition of further stories if necessary.

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COULD BUILD WONDERFUL CARS

Knowledge Born of Experience Would Preponderate Over Theory in This Factory—But Money is Needed.

Let all the present automobile makers boast about their designers and their factory superintendents and their experienced machinists, but make them tell, if they will, who could build the best automobiles in the world if only they set about it. Who is it that by their experience in driving cars, repairing cars, smashing cars and tuning cars, not to mention washing them, could design and build cars that would make the present productions look pitiful by comparison? And the answer is wafted from Louisville, Ky., that it is the chauffeurs. Of course even before the answer comes from Louisville, some discerning minds have already guessed it, but they may not know that the chauffeurs are preparing to prove it

Already the plans have advanced to a point where the Professional Chauffeurs' Association is holding meetings to promote a factory where they can make touring cars, runabouts, doctors' callabouts, taximeter cabs and delivery wagons which will incorporate the features and ideas which combined chauffeuring experience suggests. At least one car has been built after this fashion and named in honor of the king of drivers, "Nazarro," and although it was not constructed in the big plant of the chauffeurs' association, because that plant is not built yet, it nevertheless has been decided upon as a model for one of the many styles that will emanate from the chauffeurs' factory if the investing public does not prove to be a set of "tight-wads" when it comes to helping the enterprise along.

If cars, why not tires? Sure! Tires, too, are to be made at the projected plant. Who is it that knows all there is to be known about tires? (Answer from Louisville same as in first paragraph). Having heard that there is a great deal of graft in tires as marketed at present, resulting in high prices to the owner, the chauffeurs' association will produce tires at the prices at which they ought to be sold, and will make them so durable that chauffeurs need actually buy only one set out of every six that they tell the owner they need the money for. Of course the tire department will not be started until the car making part of the outfit is running smoothly, and the latter will not be started until the factory is built, and the factory construction will not be started until somebody supplies the money, and the money supply has got to be started somehow, and so that is why the association has started holding its meetings.

Adopts "Inter-State" as Its Title.

After temporary anonymity, pending the selection of a name by means of a prize contest, the automobile concern headed by Thomas Hart in Muncie, Ind., has decided to call itself the Inter-State Automobile Co. The new factory buildings, which are largely of glass, are being completed, and it is planned to produce 1,000 cars during the coming year.

Must File Pope Motor Car Claims.

Creditors of the Pope Motor Car Co. are being notified that November 1 is the last day on which they may prove and file their claims against the company, and that should they fail to take such action on or before that date, they will be barred from participation in the assets. Claims are to be filed at Toledo, O., with the clerk of the United States circuit court for the northern district of Ohio, western division, where the company's legal affairs center.

Credit Association's New Feature.

The Automobile Trade Credit Association, with offices at 80 Wall street, New York City, has instituted a new feature in a committee to handle the claims of members against bankrupt concerns. The committee will endeavor to effect economies and obtain settlements that in many cases would not otherwise be possible. Twenty-two automobile and accessory concerns have recently been added to the membership.

Henry and Porter Part from E-M.F.

Dave Henry has resigned as traveling representative of the E-M-F Co., of Detroit, Mich., as has J. D. Porter. Their duties in the West and the East, respectively, in arranging for the distribution of the company's product became very light as a result of a heavy demand for the cars.

Motor Car Broker is a Bankrupt.

Charles I. Scott, of 1779 Broadway, New York City, who has been doing business as an automobile broker, has filed a voluntary petition in bankruptcy. There are fifty creditors and his liabilities amount to $19,936, with no assets.

Burned Many Automobile Bodies.

Fire damaged the stock and plant of the George T. Stehling Wagon and Truck Mfg. Co., of Milwaukee, Wis., recently, to the extent of $5,000. Automobile woodwork on the second floor was the chief contribution to the flames.

Burgess Builds a Spring Factory.

Wenona, Ill., is to have a new manufactory, where "double tension" automobile springs are to be made. A brick building is being constructed for Charles Burgess, Jr., the inventor and backer of the enterprise.

Economy to Move to Joliet.

The Economy Motor Buggy Co., formerly of Fort Wayne, Ind., is removing to Joliet, Ill., where local capital has been interested. Ground has been broken for a spacious two story brick factory in East Cass street.

POPE CREDITORS ARE WAITING

Reorganization is Close at Hand—Provides for All Claims—Date is Set for the Hearing Before the Court.

Further steps toward the reorganization of the Pope Mfg. Co. have been taken to the extent that an order has been obtained from the court calling upon holders of the capital stock and holders of the voting trust certificates to show cause why the offer and plan of the reorganization committee should not be accepted. The hearing has been set for Tuesday, November 10, before a court at Chancery Chambers, in Newark, N. J.

Of the first and second preferred stock, the holders of which will alone participate in the exchange of new shares, there has already been deposited with the trustees over 98 per cent. of the first preferred, and approximately 90 per cent. of the second preferred. The stockholders themselves have subscribed for a large part of the issue of $800,000 in notes which is to provide the ready cash for launching the reorganized company, the balance being taken by the underwriters for marketing when the deal is effected.

So imminent is the reorganization that the creditors' committee is not pressing the receivers for the fourth and final creditors' dividend which many of the individual creditors are asking for. Since the plan for the new company provides for the payment of all the old claims with interest, the committee has thought it best to await this result, which seems likely of early consummation.

Excelsior to Distribute Stepneys.

Middle west distribution of Stepney wheels and other products of the Spare Motor Wheel of America, Ltd., has been placed with the Excelsior Supply Co., of Chicago, Ill. The former company's retail store at 236 Michigan avenue will be given up, and George S. Morrow, general sales manager, in addition to handling the advertising, will divide his time between New York City, Chicago and Kansas City, at which points the three main distributing agencies are located.

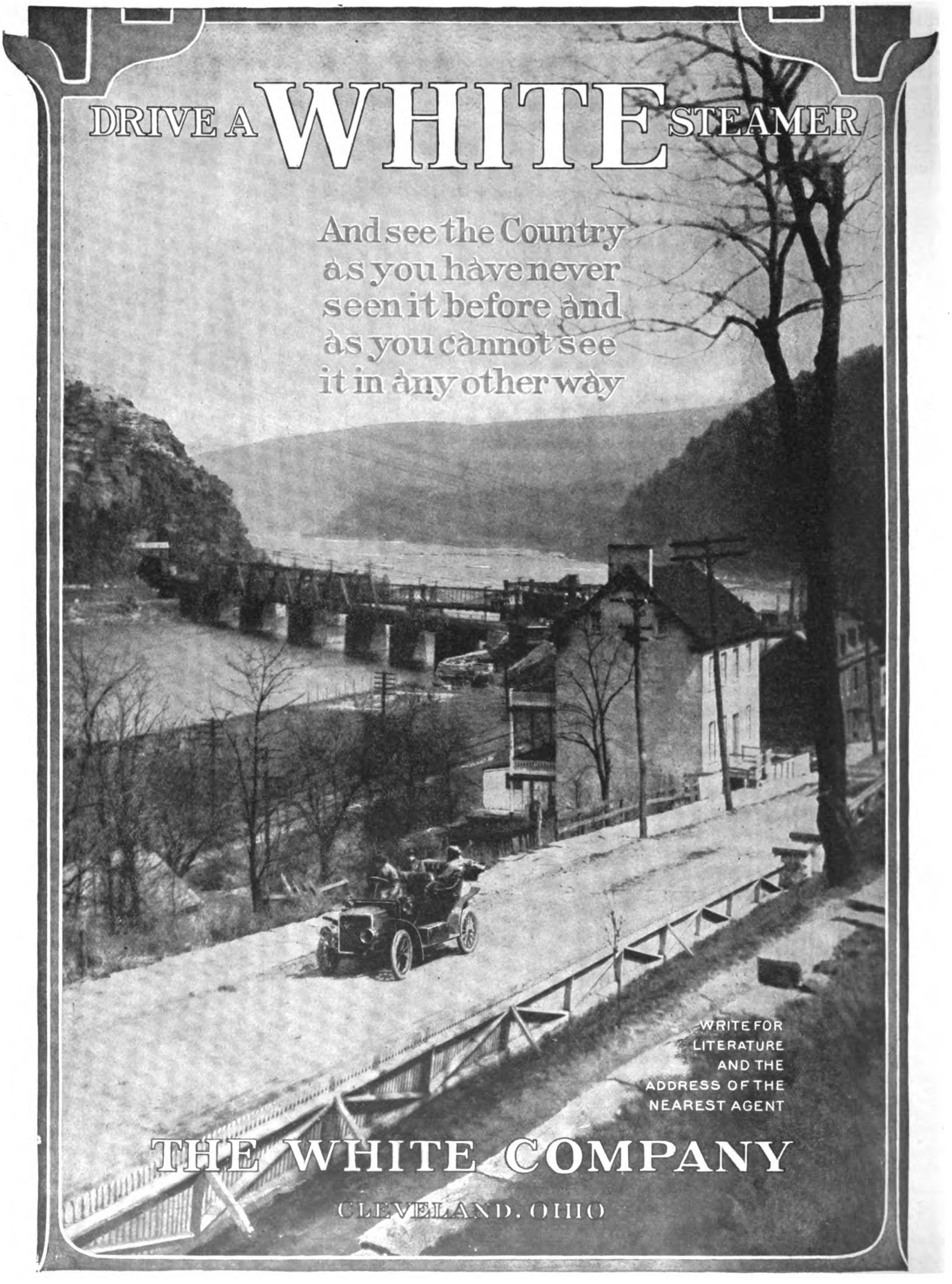
Whitlock Resigns from Empire.

W. G. Whitlock has resigned from the sales department of the Empire Automobile Tire Co., of Trenton, N. J. He went with the Empire company when President C. H. Semple carried with him a number of associates then connected with the G & J Tire Co.

Grossman Sails Next Week.

Emil Grossman, president of the National Sales Corporation, of New York City, sails for Europe next week. He will attend the Paris and Olympia shows.

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NEW YORK, OCTOBER 29, 1908.

Concerning the Cup and the Car.

That an American car should win the Vanderbilt cup race against foreign built contenders is a very happy circumstance in itself, but peculiarly so just now in view of the fact that in future the race is to be for American cars only. In lifting the cup, the Locomobile removed all possibility of the taunting comment that not until all foreign cars had been eliminated by the rules could an American contestant capture the trophy. As a conspicuous figure in Vanderbilt races of the past, moreover, its present victory is a logical as well as a gratifying one.

But aside from these causes for self-congratulation, the true American must feel a sense of wholesome pride at the showing made by the other American entries. While the foreign contingent was lacking in the names of drivers famous for their big successes, the cars both in power and in rank in the racing world, were sufficiently representative to make the contest truly international in character. It completely vindicated the old assertion that the American makers are competent to build racing cars as reliable and as fast as any produced in other lands.

Strangely enough the Locomobile that won the race was in no small degree responsible for the row between the American Automobile Association and the Automobile Club of America, which resulted in the Vanderbilt Cup contest event being put under the ban so far as foreign entries were concerned. In framing the rules for the affair the A. A. A. was anxious to make it possible for both the big Locomobile and the large Thomas racing car to compete, which necessitated larger limits than those permitted by the regulations of the so-called Association of Recognized Automobile Clubs abroad. The A. C. A. seized on this omission to observe the rules agreed upon across the water, as the basis of its fight, and the A. A. A. was drawn into a very unpleasant squabble through its desire to give these two cars, on which the makers had spent no inconsiderable sums, a fair chance in competition. It is also significant that both the Locomobile cars were built for the last Vanderbilt contest two years ago, when one of them made the fastest lap in the race, and was crowded out of a place at the finish chiefly because of the lack of demountable rims—a handicap which gave tremendous advantage to the foreign contenders.

With regard to the general management of the contest, full measure of credit is due to the members of the Cup Commission and the officials of the Long Island Motor Parkway for what was admittedly first class handling of the affair. At the same time, it is to be hoped that the incidents which caused the summary stoppage of the race at the very moment of the climax through laxity in handling the crowd, will never have repetition. Despite the repeated assertion that no outsiders were to be admitted within the Parkway enclosure, the course was overrun during the entire contest. Local deputies, as usual, proved pitifully insufficient for the tasks assigned them, and that important item, the guarding of the course, was distinctly a failure. Military guards, perhaps, and certainly more rigid discipline among civilian employes must be developed before contests of this sort can become really safe either to witness or to compete in. Of the Parkway itself, no criticism can be offered. The road construction proved satisfactory, and the banking and grades failed to develop the treacherous tendencies predicted.

Legal Sanction for Injustice.

While it may be presumptive for the lay mind to question the rectitude of any approved legal decision, especially when handed down with the unanimous assent of a tribunal so high as the Supreme Bench of the State of Massachusetts, yet the adverse opinion rendered last week in the case of the Ashfield motorist who had appealed from a fine imposed for driving over a "posted" road in his own town, is, to say the least, difficult to assimilate. In a word, the opinion that selectmen, aldermen and others having direct control over country or urban highways are properly and legally empowered to close such thoroughfares to automobile traffic, means that the motorist living on such a street will be unable to bring his car to his own door, or supposing it to be on his own property, to remove it, unless an unposted back street happens to be within reach. It means that an unwholesome degree of authority is placed in the hands of those not always equipped to wield it wisely, that purely local governments are given the power to discriminate between one class of public traffic and another and that their decision in such matters is final.

Few test issues of recent adjudication have had as important bearing upon the rights and privileges of the motorist as this. The possible effect of thus establishing a right of segregation between self-propelled and other means of traffic is self-apparent. It is the same principle which has been thrashed out over and over again in connection with the enactment of automobile laws, good, bad and indifferent. The motorist on the one hand, struggling for recognition as a rightful user of the public thoroughfare; the anti-motoring element on the other, striving in opposition merely because of an ancient prejudice or the detractory influence of the minority of wild and hysterical motorists whose influence ever has been the worst possible enemy to the cause. Mark the automobile as a vehicle of transportation equal in principle and right with any other vehicle capable of following the highway, and its abuse is at once reduced to its proper level, that of an offense against the precepts of decency—in other words, a plain breach of the peace. Define it as a thing apart, subject to special restrictions and open to objections based on superficial

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or whimsical analyses, and its status must remain subject to special privilege, and special restriction.

The justice of the finding that a legislature which has the accepted right to restrict the speed of automobiles also has the right to limit their use in other respects, is beyond question. That it also may delegate to other and lesser bodies certain of its powers in this respect is a conclusion undeniably justified. The failure of this attack upon the constitutionality of the practice of allocating such powers either to state or local bodies, however, is of far more than local significance. The special provision to which it accedes might be of considerable importance and utility at times and under certain extraordinary circumstances. But its indiscriminate use is to be deplored and even feared. It is greatly to be hoped that the door thus set open will not provide ingress for a growing restraint upon the legitimate motorist which in some localities already has gone hopelessly beyond its reasonable limits.

Fortifying the Brakes.

In the concerted movement for the improvement of braking efficiency which has been in progress for the last year or two it is rather surprising to note that designers almost without exception have overlooked one rather important point, and that in the more modern braking systems a useful feature which was perhaps accidental to their predecessors has been overlooked. Despite the advantages of equalizing the application of the bands upon opposite driving wheels, it is noteworthy that with most such contrivances the breaking down of one side of the system involves the disablement of the other. While the probability of accident through the breakage of one of the shoes is not very great, especially where two full sets of brakes are employed, still the very fact that the average driver regards his brakes as being absolute duplicates, is sufficient evidence that both should be made as reliable as possible. For should one set become disabled the full burden falls upon the other end in the absence of proper devices to prevent it, the yield of one of these brakes would mean entire loss of control.

The usual method of brake compensation by means of a balance beam is useful only to the extent of equalizing the power applied to the bands. Beyond this, differences in the adjustments of the two brakes, or differences in the condition of the working surfaces, involve an unequal application of the retarding force. On this account it was at one time proposed to apply a different method of equalization by placing the differentiating medium between the two anchor points rather than between the two points of application. Aside from its inherent advantages in other respects, such an arrangement would be of service in providing against the entire cutting adrift of one brake when the other gives way.

With the ordinary method of application it is difficult to devise means of providing against this contingency. Indeed the only really effective method would be to arrange stops for limiting the movement of the arms of the equalizer, placing them in such a position that they would not interfere with its movement so long as the two brakes were evenly applied. In the event of a failure on one side, with such an arrangement, the stop on the disabled side would become a fulcrum point about which the beam would swing in applying the other. A little longer travel for the lever or pedal would be required in this case, but to an amount which could be provided for readily enough. It may be that in some of the many arrangements now in use this principle is developed, accidentally or otherwise, but so far as is known such is not the case. At all events no such feature ever has been brought out as a talking point.

COMING EVENTS

October 31, Philadelphia, Pa.—Automobile Club of Philadelphia's sixth annual tour for the Brazier Cup.

November 2, St. Louis, Mo.—Manufacturers & Dealers Association hill climb, Solomon's hill.

November 3, Hartford, Conn.—Hartford Automobile Club's 24 hours race.

November 7-8, New Orleans, La.—Two days' race meet.

October 31, Dayton, O.—Race meet, State fair grounds.

November 25, Savannah, Ga.—Automobile Club of America's 200 miles light car race.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles race.

November 27, Denver, Col.—Colorado Industrial Exposition Association's race meet. Overland Park track.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show in Madison Square Garden.

January 23-30, Philadelphia, Pa.—Philadelphia Automobile Trade Association's annual show.

February 6-15. Chicago, Ill.—National Association of Automobile Manufacturers, Coliseum and First Regiment Armory.

February 27-March 3, Hartford, Conn.—Automobile Dealers' Association show.

To Race for Brazier Cup October 31.

Philadelphia, Pa., is having its full share of motoring events this fall, the next in line being the sixth annual run of the Automobile Club of Philadelphia for the Brazier Cup, which is scheduled for Saturday, October 31. The affair is to be run strictly within the speed limits of the various boroughs and townships through which it passes and contestants will be obliged to adhere to the time schedule mapped out. The course is roughly, a rectangle, starting at Broad and Walnut streets and running west through Lansdowne, Aldan, Swathmore, Wallingford and Media, then north through Devon and Valley Forge; switching eastward to Bridgeport, Norristown and Ambler, thence back to the Quaker City, via Chestnut Hill and Germantown. The distance will be approximately 65 miles.

New Rules Reduce Size and Weight.

Announcement was cabled from Paris last week of the new rules in the matter of racing limitations for 1909, made by the International Congress of Recognized Automobile Clubs. The change has to do with the reduction of the size of cylinder bore and weight of the car and was recommended some time ago by the Italian Club and endorsed by other foreign clubs.

The new rules provide for a maximum bore of 130 mms. or 5 1-10 inches, and a minimum weight of 900 kilos, or 1,984 pounds. This cuts down the size of four cylinder racing motors one inch, and the minimum weight some 600 pounds.

Fort George Hill Climb Off Again.

Because of an objection on the ground that it might interfere with the prerogatives of voters, the much-postponed Fort George hill climb which the New York Trade Association has been endeavoring to promote, has again been set over. After all arrangements had been made for the contest and entries invited, John T. Dooling, president of the State Board of Elections, called the attention of Mayor McClellan to the fact that the competing cars would pass one of the polling booths, and that no little confusion might be expected to result in consequence. The immediate result was the abandonment of the date.

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ROBERTSON CAPTURES THE CUP

American Car "Lifts" Vanderbilt Trophy for the First Time in History, the Winner Sending His Locomobile Over the New Long Island Course at Average Speed of 64.3 Miles per Hour—Seventeen Competitors in Hotly Contested Race, Free From Serious Accident—Immense Crowd Present, Despite Unfavorable Weather—Contest Again Cut Short by Thronging of Course After Winning Car Finishes.

RESULTS OF THE FOUR CONTESTS FOR THE VANDERBILT CUP.

Year.	Winner.	H.P.	Car.	Length of course.	Winner's net time.	Winner's Av.m.p.h.	Fastest lap. m.p.h.
1904	Heath	90	Panhard	284.4	5:26:45	52.22	70.9
1905	Hemery	80	Darracq	283.0	4:36:08	61.43	66.9
1906	Wagner	100	Darracq	297.1	4:50:10⅖	65.13	67.3
1908	Robertson	90	Locomobile	257.9	4:00:48⅕	64.30	69.49



LYTLE AND ROBERTSON POSE



ROBERTSON FINISHES WHILE IRISH VOLUNTEERS HOLD BACK THE CROWD

Cynical and superficial as the sharp-tongued old gentleman may have been in declaring that the Vanderbilt cup race is chiefly valuable in "giving half of New York an excuse to sit up all night," yet he hit upon one of its most striking phenomena for his commentary, but one which properly interpreted signifies the astounding degree of popular interest in the event, which has taken the character of a settled institution. Variously estimated at from 200,000 to 500,000 people, the crowd which saw the fourth race for the Vanderbilt cup, on Saturday, the 24th inst., got a full reward for all losses of sleep and expenditures of money, in a sporting contest that was rich with the qualities of speed, picturesqueness, and keen competition, and which resulted in a brilliant victory for an American car.

Driving a sharp, decisive race, in his 90 horsepower Locomobile, George Robertson secured a signal victory over Herbert Lytle, winner of the Long Island Sweepstakes of two weeks before, who drove an Isotta car with even greater steadiness, though less brilliancy. Robertson made the fastest lap times in all but the fourth, fifth and sixth laps, in addition to which he made the fastest lap in the race. Lytle, on the other hand, held either second or third place for the entire contest and handled his car with a precision which was remarkable.

The Locomobile figured as No. 16, and was the thirteenth to get away from the

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SUMMARY OF RACE SHOWING ELAPSED TIME BY LAPS.

No.	Driver.	Car.	H.P.	1 lap. 23.46 Miles.	2 laps. 46.92 Miles.	3 laps. 70.38 Miles.	4 laps. 93.84 Miles	5 laps. 117.30 Miles.	6 laps. 140.76 Miles.	7 laps. 164.22 Miles.	8 laps. 187.68 Miles.	9 laps. 211.14 Miles.	10 laps. 234.60 Miles.	11 laps. 258.06 Miles.
16	George Robertson	Locomobile	90	20:54	43:07	63:24	89:14	111:37	132:07	152:43	173:19	195:41	216:36	240:48⅗
6	Herbert Lytle	Isotta	60	21:52	43:26	65:15	87:19	110:47	132:47	154:52	176:48	198:36	220:46	242:36⅗
5	W. C. Luttgen	Mercedes	90	23:32	49:16	72:10	94:34	116:50	139:15	166:42	188:49	216:14	243:30	*270:35
12	George Salzman	Thomas	115	22:04	46:17	68:54	91:25	113:58	136:47	159:51	201:41	225:34	248:11	†
1	James Florida	Locomobile	90	23:10	45:23	67:36	93:44	115:22	143:39	165:15	191:14	227:23	249:07	*271:10
3	E. Stricker	Mercedes	120	22:25	44:23	66:19	88:42	110:20	135:04	159:48	181:15	210:57	Caught fire.	
2	Albert Denison	Knox	50	24:33	56:34	81:42	107:19	141:36	167:20	195:18	225:56	253:09	†	
20	W. Bourque	Knox	40	27:15	52:06	77:32	103:06	135:41	163:47	195:00	222:20	†		
8	J. Seymour	Thomas	60	31:43	63:43	95:05	132:56	160:29	189:16	215:23	243:01	†		
4	Willie Haupt	Chadwick	90	21:53	43:22	64:49	86:10	107:46	131:54	188:00	244:15	†		
18	Foxhall Keene	Mercedes	120	53:25	76:17	98:35	120:45	Caught fire and withdrew.						
7	J. B. Ryall	Matheson	60	26:13	65:59	97:56	Caught fire and withdrew.							
17	Lewis Strang	Renault	115	59:49	82:47	106:45	Burned out clutch and withdrew.							
11	Cyrus Patschke	Acme	90	23:23	48:06	Broke cam shaft at Central Park; withdrew.								
9	E. J. Kilpatrick	Hotchkiss	90	22:43	68:13	Connecting rod bearing seized at Central Park; withdrew.								
15	L. Chevrolet	Matheson	90	22:09	Cracked cylinder at Jericho; withdrew.									
19	Howard Gill	Thomas	115	26:45	Burned out clutch and broke gear at Bethpage.									
10	L. Pouget	Brasier	90	Broke steering gear on way to starting line; did not start.										

TABLE SHOWING TIME BY LAPS, AVERAGE MILES PER HOUR AND AVERAGE TIME PER MILE

No.	Driver.	1st lap.	2d lap.	3d lap.	4th lap.	5th lap.	6th lap.	7th lap.	8th lap.	9th lap.	10th lap.	11th lap.	Average miles per hour.	Average time per mile.	Fastest lap.	Av. miles per hour on fastest lap.	Av. time per mile on fastest lap.
16	Robertson	20:54	22:13	20:17	25:50	22:23	20:30	20:36	20:36	22:22	20:55	24:12⅕	64.3	55.76	20:17	69.5	51.80
6	Lytle	21:52	21:34	21:49	22:04	23:28	22:00	22:05	21:56	21:48	22:10	21:50⅖	63.7	56.50	21:33	65.4	55.05
5	Luttgen	23:32	25:44	22:54	22:24	22:16	22:25	27:27	22:07	27:25	27:16		57.3	62.82	22:16	63.3	56.88
12	Salzman	22:04	22:13	22:37	22:31	22:33	22:49	23:04	41:50	23:53	22:37		56.7	63.48	22:04	63.8	56.43
1	Florida	23:10	22:13	22:13	26:08	21:38	28:17	21:36	25:59	36:09	21:44		56.6	63.60	21:40	64.9	55.47
3	Stricker	22.25	21:58	21:56	22:23	21:38	24:44	24:44	21:27	29:42			60.0	60.00	21:27	65.6	54.88
2	Denison	24:33	32:01	25:08	25:37	34:17	25:44	27:58	30:38	27:13			50.0	72.00	24:33	56.7	63.49
20	Bourque	27:15	24:51	25:26	25:34	32:35	28:06	31:13	27:20				50.5	71.28	24:51	56.6	63.60
8	Seymour	31:43	32:00	31:22	37:51	27:33	28:47	29:07	27:38				46.0	78.26	27:38	50.9	60.73
4	Haupt	21:53	21:29	21:27	21:31	21:36	24:08	56:06	56:15				45.9	78.43	21:27	65.6	54.88
18	Keene	53:25	22:52	22:18	22:10								46.0	78.35	22:10	63.5	56.69
7	Ryall	26:13	39:46	31:57									46.0	78.35	26:13	53.6	67.26
17	Strang	59:49	22:58	23:58									40.0	90.00	22:58	61.3	58.73
11	Patschke	23:23	24:43										60.0	60.00	23:23	60.3	59.70
9	Kilpatrick	22:43	45:30										62.0	58.06	22:43	62.0	58.06
15	Chevrolet	22:09											63.6	56.60	22:09	63.6	56.60
19	Gill	26:45											52.6	68.44	26:45	52.6	68.44

SPECIFICATIONS OF COMPETING CARS WITH NAMES OF ENTRANTS AND DRIVERS.

No.	Driver.	Car.	H.P.	Entrant.	Bore.	Stroke.	Clutch.	Wheelbase.	Tires.
1	Florida	Locomobile	90	Locomobile Co. of Amer.	7.25	6.25	Cone	110	Diamond
2	Denison	Knox	40	Knox Auto Co.	5.50	5.50	Three-plate	106	Fisk
3	Stricker	Mercedes	120	Robert Graves	6.68	5.9	Lindsay	107	Michelin
4	Haupt	Chadwick	90*	Chadwick Engr Wks.	5	6	Metal cone, cork inserts	112	Michelin
5	Luttgen	Mercedes	120	W. K. Vanderbilt, Jr.	6.68	5.9	Lindsay	107	Michelin
6	Lytle	Isotta	60	C. V. Brokaw	5.7	4.72	Multiple disc	118	Michelin
7	Ryall	Matheson	57.7	Matheson Motor Car co.	6	6	Multiple disc	117	Michelin
8	Seymour	Thomas	80	E. R. Thomas Co.	6	5.7	Three-plate	112	Michelin
9	Kilpatrick	Hotchkiss	120*	Hotchkiss Import Co.	7	6.28	Cone	104	Michelin
10	Pouget	Brasier	96	H. Payne Whitney	6.39	5.5	Cone	104	Michelin
11	Patschke	Acme	60*	Cordner & Flynn	4.99	5.5	Cone, cork inserts	108	Diamond
12	Salzman	Thomas	115	E. R. Thomas Co.	6.875	5.5	Three-plate	104	Michelin
15	Chevrolet	Matheson	85.7	Matheson Motor Car Co.	7.25	6	Multiple disc	117	Michelin
16	Robertson	Locomobile	90	Locomobile Co. of Amer.	7.25	6.25	Cone	110	Michelin
17	Strang	Renault	115	Paul Lacroix	6.25	6	Int. Expand	112	Michelin
18	Keene	Mercedes	120	Foxhall Keene	6.68	5.9	Lindsay	107	Michelin
19	Gill	Thomas	115	E. R. Thomas Co.	6.875	5.5	Three-plate	104	Michelin
20	Bourque	Knox	40	Knox Auto Co.	4.875	4.75	Three plate	102	Fisk

TABLE SHOWING POSITIONS OF CONTESTANTS AT END OF EACH LAP.

No.	Driver.	1st lap.	2d lap.	3d lap.	4th lap.	5th lap.	6th lap.	7th lap.	8th lap.	9th lap.	10th lap.	11th lap.
16	Robertson	1	1	1	4	4	2	1	1	1	1	1
6	Lytle	2	3	3	2	3	3	2	2	2	2	2
5	Luttgen	10	8	7	7	7	6	6	4	4	3	
12	Salzman	4	6	6	5	5	5	4	6	5	4	
1	Florida	8	5	5	6	6	7	5	5	6	5	
3	Stricker	6	4	4	3	2	4	3	3	3		
2	Denison	11	9	9	9	9	9	9	8	7		
20	Bourque	14	8	8	8	8	8	8	7			
8	Seymour	15	10	10	11	10	10	10	9			
4	Haupt	3	2	2	1	1	1	7	10			
18	Keene	16	13	12	10							

No.	Driver.	1st lap.	2d lap.	3d lap.
7	Ryall	12	11	11
17	Strang	17	14	13
11	Patschke	9	7	
9	Kilpatrick	7	12	
15	Chevrolet	5		
19	Gill	13		

† Running when race was called off.
* Unofficial time—finished after race was officially called off.
* Six Cylinders.

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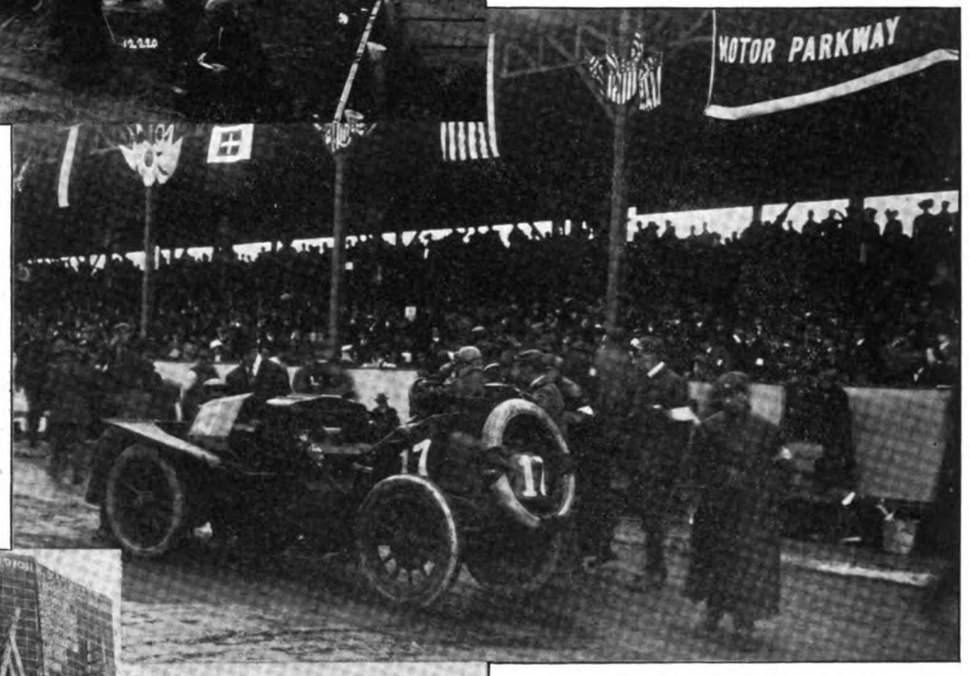


LYTLE, ISOTTA, STARTING

line. Lytle's car was No. 6, so that he finished first. The 8 minutes, 11⅘ seconds which elapsed after the end of Lytle's race and before Robertson finished, were fraught with the most intense excitement—especially at the grandstand, where it was known that the outcome of the contest depended on the performance of the Bridgeport car during those last precious moments.

Early in that same lap, a wild skid had delayed Robertson by 2 minutes or more at Plainview, while he replaced a tire, and rumor had been busy building all sorts of thrilling and time-exhausting accidents about a very bare substance of known fact. When at length he came flying down the long stretch to the finishing line, therefore, the enthusiasm of the crowd knew no bounds. For a brief space the fate of what amounted to an international race had hung in the balance, and the relief of the American victory and the Italian defeat caused an overflow of the stands and the course which swept the awkward military guard completely off its feet, swamped the constabulary and threatened the following racers with the awful fate which has marred the conclusion of each previous contest for the Vanderbilt Cup.

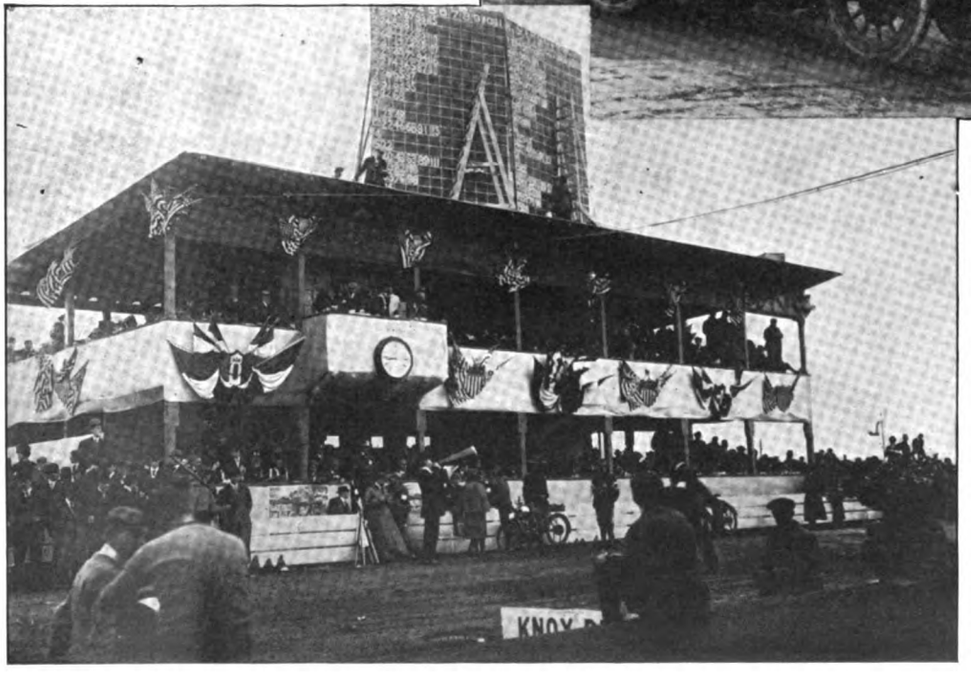
Not only at the grandstand, but at all points on the course, the people surged excitedly into the path which the cars were



STRANG'S RENAULT BALKS

following. That no fatalities occurred was a marvel. Such an inrush of foolhardy humanity could not fail to result in accident, however, and the incident which caused the abrupt termination of the race was a direct effect of inefficient safeguarding of the course.

The second car behind the winning Locomobile arrived just at a moment when the course was completely flooded with the overflow from both sides of the way. Oddly enough it was the other Locomobile entry with Florida at the wheel. A touring car had backed on to the course from one side, and was smothered in the crowd. An opening was made for the racing car as it bore down, but too late to give it ample room. A collision between the two machines occurred and in the confusion a youth was knocked down and sustained a broken leg. Immediately afterward Referee Van-



PRESS STAND, PETER PRUNTY WITH HIS MEGAPHONE, TIMERS BEHIND THE CLOCK, AND SCORE BOARD ON ROOF.

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derbilt ordered the race stopped, and Luttgen, driving Vanderbilt's own car, together with Salzman in the Thomas, were accorded third and fourth places by virtue of their existing positions in the race.

When in a race of 258 miles the first and second positions at the finish are separated by only 1 minute and 48⅕ seconds, as was the case between Robertson's Locomobile and Lytle's Isotta, it is evidence that drivers, owners and spectators had plenty of thrills as the fortunes of the different cars varied. Robertson made the 11 laps in 4 hours and 48⅕ seconds, at an average rate of 64.3 miles per hour, while Lytle covered the distance in 4 hours, 2 minutes, 36⅗ seconds. Neither in the fastest lap of the race nor in the average for the whole distance, however, did the winner equal the best records of previous Vanderbilt races. In 1904 the Panhard, driven by Heath, made its fastest lap at 70.9 miles, while Robertson's fastest lap was at 69.49, and in 1906 Wagner covered 297.1 miles at an average rate for the whole race of 65.13 miles per hour. Weather conditions accounted in no small degree for the fact that records were not broken, as the leaders drove to the limit of what the wet and slippery course would stand.

Of the seventeen actual starters, eleven were of American manufacture and six of foreign make. At least three of the latter were entered by individual owners desiring to contribute to the success of the event, while the others had trade backing. The list was very representative, including besides the American entrants, the products of Germany, France and Italy. Two of the three Mercedes dropped out, as did the Hotchkiss and the Renault, so that the foreign showing exhibited no superiority to that of the American entrants, as out of eleven of the latter, seven were running when the race was called off.

HOW THE GREAT RACE WAS RUN AND WON



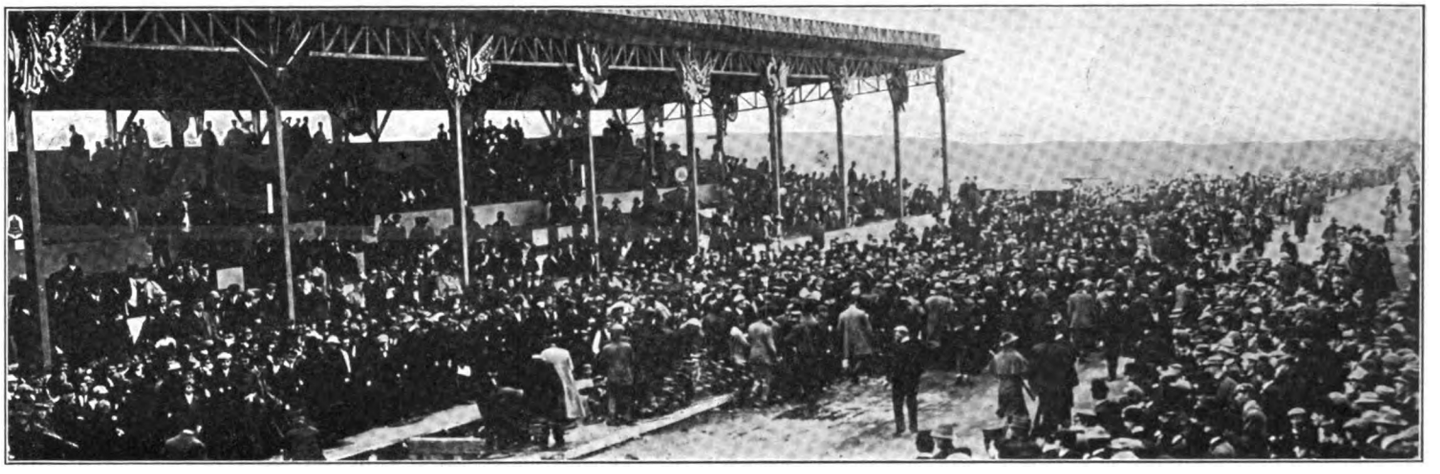
REFEREE VANDERBILT, CHAIRMAN THOMPSON AND ROBERTSON IN CONFERENCE

Because of the rain and heavy grayness of the morning the start was set for 6:30, as it would have been hard to determine the "day break" which was to have marked the beginning of the race. Most of the cars began to arrive from their quarters early, booming along the course in irregular cannonades and spurts of fire from their exhaust. To make way for them the sleepy and otherwise uncertainly gaited Irish volunteers, with light blue overcoats and muskets, were set to work pushing the people off the roadway, and after considerable activity and the punching of a few offenders with gun butts the crowd was compressed sufficiently to the sides to leave the space at the line fairly clear.

As the time approached, Starter Wagner lined the machines up in numerical sequence, with Florida's No. 1 Locomobile on the tape. For each car, Wagner marked off the last ten seconds by calling them out with an accompanying movement of the hand, and with the final word "Go!" giving the driver a slap and a shove on the shoulder When Florida shot away he was given a hearty cheer, and he went spinning up the stretch into the distance as the first to take chances with the slippery and uncertain conditions which the rain had developed. At one minute intervals thereafter, the successive numbers were sent off, generally with a momentary whirling of the rear wheels which sent out a shower of sparks as the steel studs of the non-skid tires ground the cement. The first break in the regular order came after the No. 9 Hotchkiss had been started, as the No. 10 Brasier, entered by Harry Payne Whitney, did not appear. Word came that its steering gear had been broken on the way to the course and that it would not start. To keep the calculations easy, the No. 11 Acme, which came next, was held two minutes, for the starting time originally assigned to it. The No. 12 Thomas followed one minute after.

In deference to superstition, No. 13 had not been assigned to any car, and No. 14, the B. L. M., had been withdrawn, so that No. 15, Matheson, was held three minutes after its predecessor, that the tally might be simple. The Locomobile, No. 16, driven by Robertson, was due one minute thereafter, and as it came up to the line there was a sustained cheer for the favorite. Oddly enough, Robertson was the thirteenth starter, but subsequent events proved that whatever hoodoo resided in this circumstance was very trifling. Robertson got away in splendid style and the crowd turned its attention to Strang, who was the pilot of the No. 17 Renault, which was to follow. Strang hardly got to the line before his engine stopped, and as Wagner began counting the seconds there were desperate efforts to start it again, but without avail. While three excited Renault handlers tugged at the crank Strang sat patiently waiting for the engine to take up its thundering. When the ten seconds had been counted off and "Wag" had given his concluding slap, Strang futilely juggled with a side lever, but the car was ridiculously inert and silent. Furthermore, there was no one at the crank

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VIEW OF GRANDSTAND AT FINISH—CROWD SURGING OVER THE COURSE

at the moment and the driver looked much alone and helpless. The machine was finally pushed over the starting line, and after some more tugging at the crank it was pushed back to the Renault supply pit where it remained, while Strang and his mechanic fumed and fussed over it for half an hour.

Foxhall Keene, with his No. 18, Mercedes, waved his compliments to his friends in the boxes and was rewarded with a demonstration of enthusiasm and fluttering handkerchiefs from that quarter. His engine was missing badly when he began his race, however, and his penchant for smashing telegraph poles and for misadventure generally made it a practical certainty that he would not finish. Another amateur, described as a young Baltimore millionaire, appeared in the person of Gill, the driver of No. 19, Thomas, but he attracted little attention as a probable winner. The Knox, No. 20, concluded the list of 17 starters, and when it was out of sight, all eyes were turned to the west to watch for the first car around.

In about four minutes the cry of "Car coming!" arose, and a lively speck was seen to skip over the rise of the distant bridge and skim down the curves into the straightaway stretch leading past the grandstand. As it entered the stretch and came head on, it grew with astonishing rapidity and showed a radiator front and wheels. A vertical white streak down the center of the swaying radiator proclaimed it Florida's No. 1 Locomobile, and the car went sweeping by at a speed that brought a howl of delight from the spectators. Another car was soon sighted, closely followed by still a third, and as they came flying toward the finish of their first lap they proved to be the No. 3 Mercedes, driven by Stricker, and the No. 4 Chadwick, piloted by Haupt, both of which had passed the No. 2 Knox, with Denison at the wheel. The Knox was next, however, and while it was going at no mean speed, it was rapidly overtaken by Lytle in the No. 6 Isotta, which flashed by the stand in pursuit.

Following these five cars, came William K. Vanderbilt, Jr.'s Mercedes, the No. 5, driven by Luttgen, which had been passed by the Isotta. Then a string loomed in sight, consisting of Kilpatrick's No. 9 Hotchkiss, Ryall's No. 7 Matheson, Salzman's No. 12 Thomas, and Patschke's No. 11 Acme.

When Robertson in the No. 16 Locomobile appeared, there was great excitement, as it was evident that he had come around faster than any of the other cars, but the cheering which that fact was about to elicit when he should go by, was suddenly changed to groans of concern when his mechanic was seen to wave to the supply men in the pits as the machine neared the stand and Robertson jammed on the brakes and came to a stop after crossing the line. He called for water and the radiator cap was quickly removed and a funnel inserted, into which a pail of water was promptly poured. The pail emptied, the funnel was thrown aside and the hose from the water pipe line substituted till the radiator was full, the cap was screwed on again and Robertson was off before two minutes had elapsed. The postponed cheer broke out spontaneously as he got away, and was followed by a big demonstration when it was announced that his first lap had been made in 20:54, faster than either Lytle's Isotta or Haupt's Chadwick, which had made the round in 21:52 and 21:53, respectively. It was feared by the crowd, however, that Robertson's stop for water had indicated a leaking radiator, until it was remembered that the car's engine had run steadily for over ten minutes while the machine was waiting behind the starting line, and had probably boiled away quite a bit of the radiator water at that time, due to a lack of wind pressure

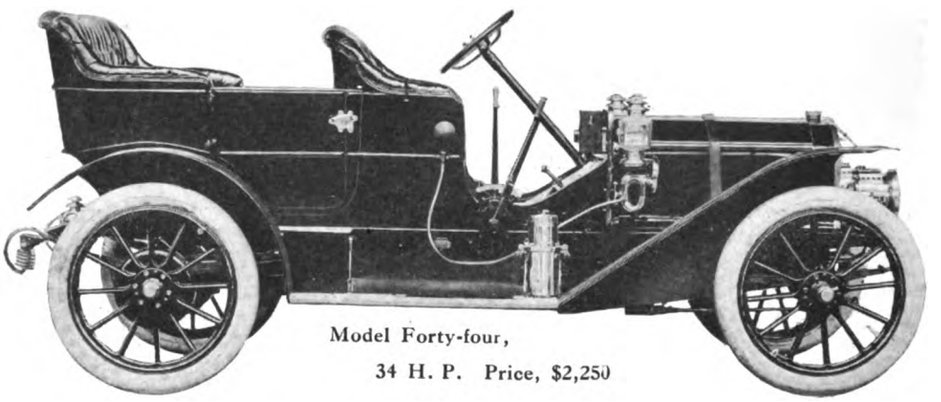


CARS PARKED BEHIND GRANDSTAND—CAN YOU COUNT THEM?

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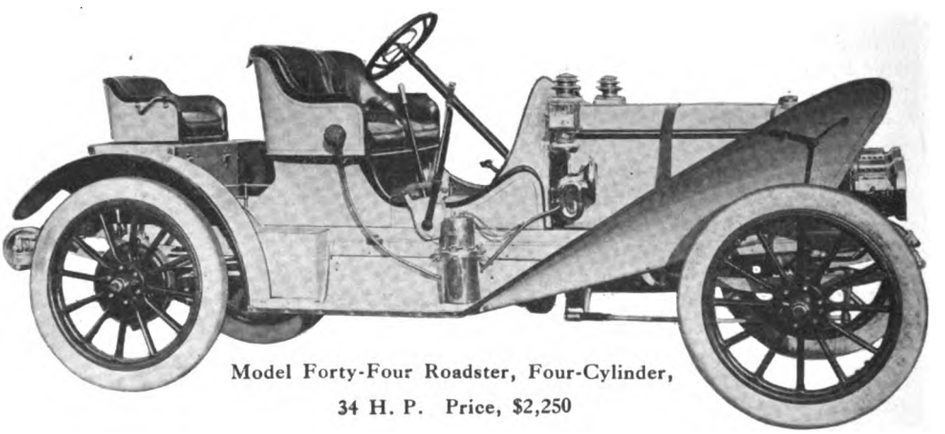
Rambler ~ 1909

Five Models, $1,150 to $2,500



Model Forty-four,
34 H. P. Price, $2,250

THE offset crankshaft, straight-line drive, safety starting device, large brakes, big wheels and tires — these features were the vital factors in the Rambler success of the season just past. Its performance in the hands of every Rambler owner has surely confirmed this. These features increase the power, flexibility, and efficiency, assure safety, enhance the appearance of the car, improve the riding qualities, provide unusual clearance, and minimize tire trouble and expense



Model Forty-Four Roadster, Four-Cylinder,
34 H. P. Price, $2,250

Specifications—Model Forty-four Touring Car and Roadster

Wheel Base—Touring, 112″; Roadster, 110″. **Wheels**—36″.
Rims—Midgley Universal.
Tires—36 x 4 Goodrich Quick Detachable; options Hartford-Dunlop, Diamond, G & J, and Fisk clincher.
Springs—Front, semi-elliptic; rear, triple action, 52 inches long.
Engine—Four vertical cylinders.
Valves—Overhanging, all on one side.
Crank Case—One piece, side opening.
Ignition—Jump spark; storage battery. Bosch magneto, $150 extra.
Transmission—Selective type, adjustable roller bearings.
Drive—Shaft, straight line.
Brakes—Two, on rear hubs; 400 square inches surface.
Body—Touring, five passengers; Roadster, three or four passengers.
Equipment—Two lens mirror head lights, two square side lamps, and tail light, generator, or uncharged gas tank, horn, tools, etc.

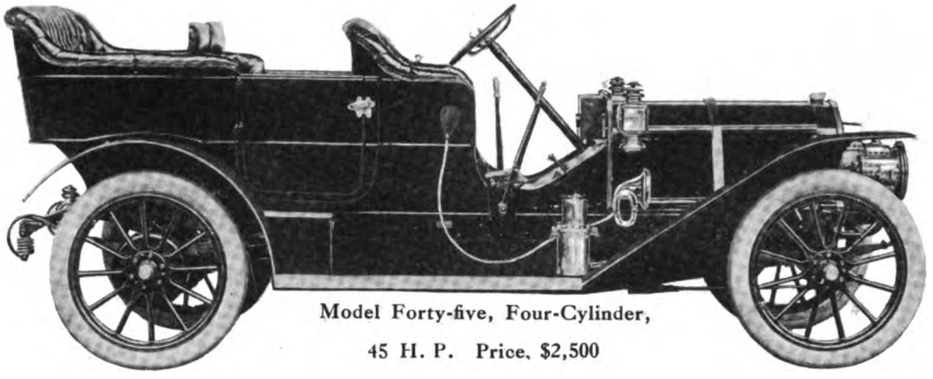
Thomas B. Jeffery & Company

Kenosha, Wisconsin

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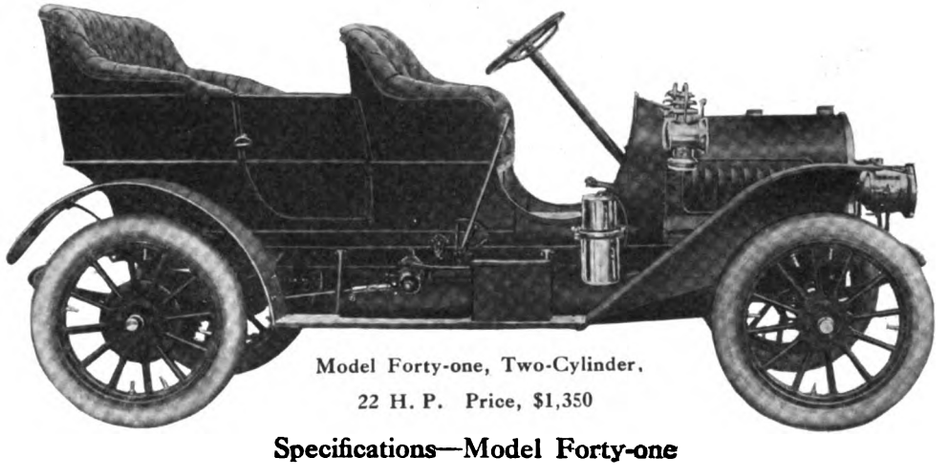
Rambler ~ 1909

Five Models, $1,150 to $2,500



Model Forty-five, Four-Cylinder,
45 H. P. Price, $2,500

—in addition to certain refinements for the owner's comfort and convenience, the new Rambler features for 1909 include the Rambler spare wheel with inflated tire (extra charge), triple action springs, adjustable steering column, provision for magneto, convenient brake adjustment, and adjustable clutch spring. One high-power, seven-passenger model as illustrated above, with 123-inch wheel base and tire size 36 x 4½ inches, will be added to the Rambler line for 1909. Other details of this model similar to Model Fourty-four.



Model Forty-one, Two-Cylinder,
22 H. P. Price, $1,350

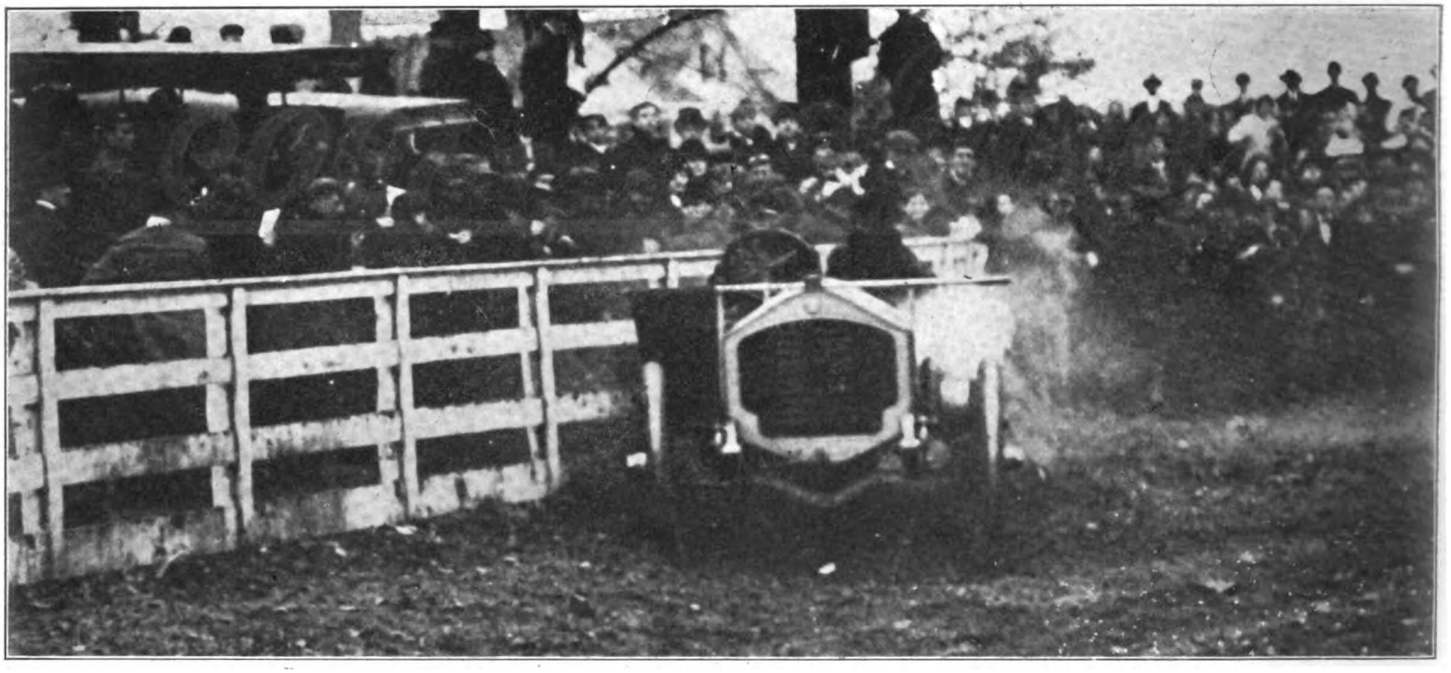
Specifications—Model Forty-one

Body—Detachable tonneau; capacity, five or two passengers.
Wheel Base—106". **Wheels and Tires**—34 x 4".
Motor—Double opposed, entirely enclosed, with transmission gear, making unit power plant.
Power—22 H. P. **Cooling**—Water, thermo-syphon system.
Lubrication—Mechanical force-feed oiler.
Ignition—Jump spark, current from six volts, sixty ampere storage battery.
Transmission—Planetary, two speeds forward, and reverse.
Clutch—Multiple disc.
Equipment—Two gas head lights with large separate generator, oil side and tail lights, exhaust signal, pump, tools, and tire kit.
Price—$1,350 with tonneau, $1,250 without tonneau, and with torpedo deck.
Torpedo Deck extra—$25. **Top extra**—$75.

Model Forty-seven, Two-Cylinder Runabout, 22 H. P. Price, $1,150 and $1.200

Thomas B. Jeffery & Company
Kenosha, Wisconsin

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WHERE PATSCHKE HIT THE FENCE AFTER ROUNDING SHARP TURN AT WESTBURY

through the interstices of the cooler as the car stood still. A very light radiator of special design had been fitted for the race, in order that the car might weigh in despite the extra weight of its quickly demountable tire rims. The new radiator had a more limited water capacity than the regular style.

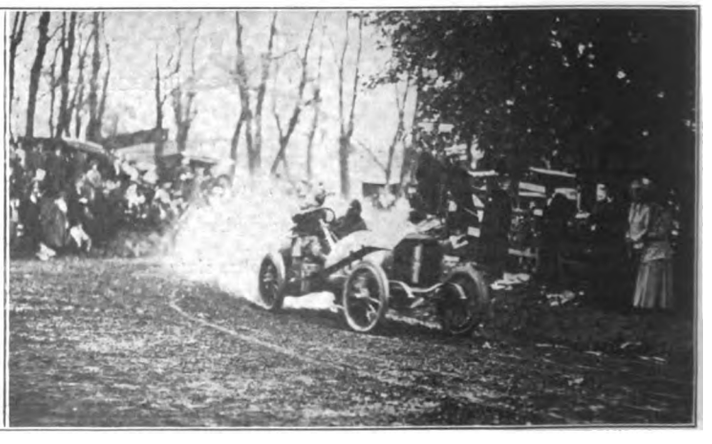
While Robertson was taking water, the Matheson No. 15, driven by Chevrolet, had passed, and the Locomobile had just got under way again when Seymour's No. 8 Thomas and Gill's No. 19 Thomas put in an appearance, trailed shortly after by Bourque in the No. 20 Knox, which accounted for the whole list, except Keene, while Strang was still wrestling with his Renault at the starting line.

Florida was first over the line in the second lap, but had Stricker's Mercedes and Haupt's Chadwick right at his heels, the two passing the grandstand together, followed at intervals by the others. Chevrolet's No. 15 Matheson retired with a cracked cylinder gasket and Gill's No. 19 Thomas burned out its clutch. Word came that Keene had had a fire, but that he was on his way again. Strang was somewhere on his first round, having started after a delay of half an hour. Fifteen were thus still in the race, but the times showed that Haupt's Chadwick, Lytle's Isotta, and Robertson's Locomobile were the three fastest cars, with Florida's Locomobile, Salzman's Thomas, Stricker's Mercedes, and Patschke's Acme all putting up a splendid race. The Acme had had a very narrow escape in the first round when it had skidded at Westbury. The turn at that point is very sharp and Patschke took it at a furious pace. His car skidded for over 100 feet, the right rear wheel striking a substantial fence. The hub went between the horizontal bars, but the impact of the tire against the boards ended the skid and Patschke headed straight out for the road again and was off before the frightened crowd could catch its breath. Quickly as the whole circumstance took place, however, it gave time for an enterprising photographer of the New York Tribune staff, Henry Steffen, to take one of those rare pictures which crystalizes the excitement of such a moment and shows what really happened. The picture is reproduced herewith, and indicates what a close call both Patschke and the crowd had.

Before the third lap was completed by the leaders, both Strang and Keene had got around for the first time, but it was evident that they had no chance of winning. Strang's car bobbed around like a cork, and Keene's was limping with a very irregular exhaust from its smoked-up bonnet which had suffered from the fire, as had Keene's moustache and eyebrows. Florida again jumped into view with the others at his back at the finish of the third, but stopped at the pits for a change of a right rear tire,

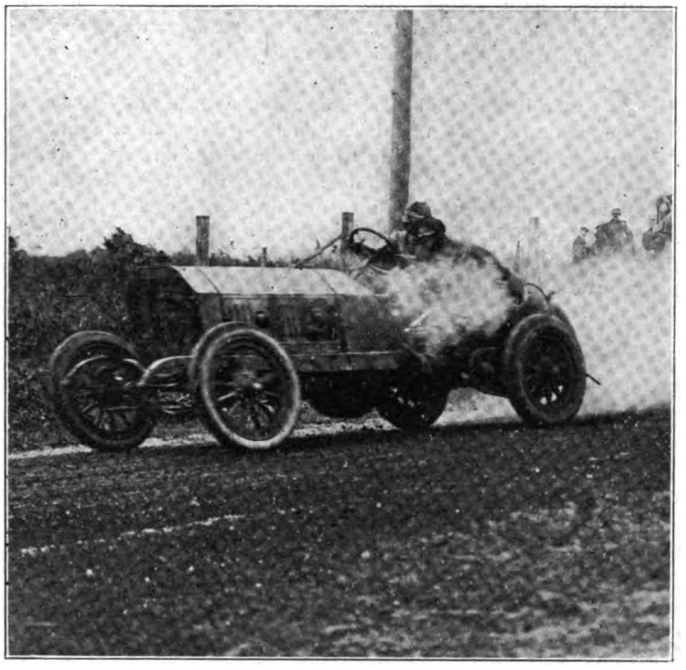


HAUPT TAKING WIDE TURN AT WOODBURY

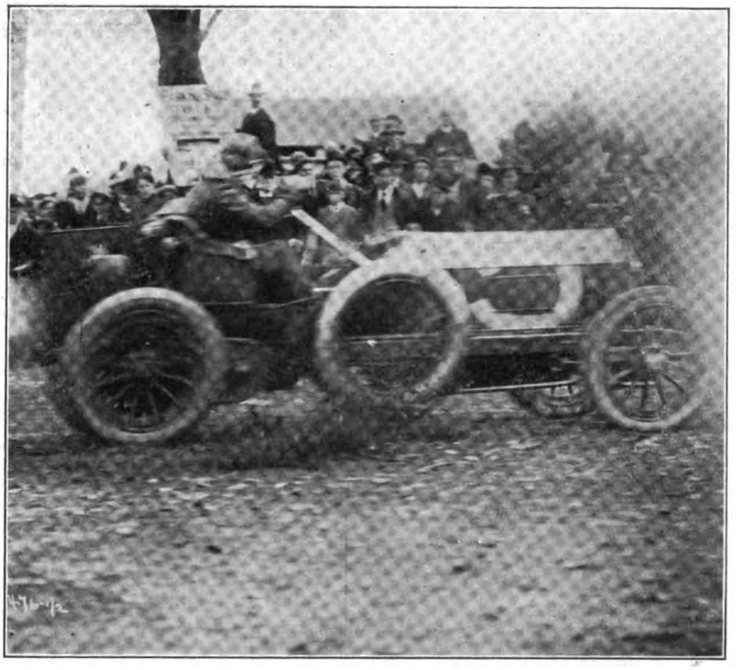


FLORIDA TAKING CLOSE TURN AT WOODBURY

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STRICKER'S MERCEDES IN A LIVELY SKID



ROBERTSON GOING "GREAT GUNS" ON STRAIGHT STRETCH

while the No. 4 Chadwick and the No. 3 Mercedes went dashing by. Robertson soon came tearing along like a whirlwind, completing the lap in 20:17, which proved the fastest time of the day, being at the rate of 69.3 miles per hour. Nor had the Chadwick and the Isotta stopped to pick flowers by the wayside, and most of the other cars were running regularly and well, with the exception of the Acme and the Hotchkiss, both of which retired at Central Park, the former with a broken cam shaft and the latter with a seized connecting rod bearing, which broke the connecting rod and plunged it through the crank case.

The fourth round gave the Chadwick the lead in point of elapsed time, with the Isotta second, Stricker's No. 3 Mercedes third, and Robertson's Locomobile fourth. It was Robertson's slowest lap, his time being 25:50, which left him 3 minutes and 4 seconds behind the leader. Strang retired from the race at about this time, and gave vent to his feelings by coming around to the grandstand and indulging in numerous cigarettes and some verbal wails about his hard luck. He attracted considerable attention until Ryall drove up, his Matheson bursting into flames as he stopped. Ryall usually arranges to break a leg and a collar bone when he is participating in a big race, but on this occasion found that a burning car will create quite as much commotion. While women screamed and men looked scared, some sensible person grabbed a fire extinguisher from the front of the stand and promptly put out the conflagration. When the temperature had cooled down to a point where he could work on the machine, Ryall attempted to repair the damage and get started again, but he was not able to make a go of it.

With six cars out of it, the fifth lap had eleven contestants for a while, but Keene's Mercedes needed a fire brigade so often that he finally had to withdraw. Again Haupt's Chadwick was the leader in the elapsed time, with Stricker's Mercedes second, Lytle's Isotta third and Robertson's Locomobile fourth. These four were rapidly leaving the other six cars, of which latter Salzman's No. 12 Thomas was the leader, with Florida's Locomobile and Luttgen's No. 5 Mercedes following on even terms. The two Knox cars were running well, but their comparatively low power put them at a disadvantage in speed, while Seymour's No. 8 Thomas was trailing leisurely.

In the sixth lap Robertson set out to gain the lead. He slammed ahead in the most reckless fashion, cavorting around the turns with terrifying skids and opening up to the limit on the straight stretches. So wild were some of his skids that he was slowed down considerably in recovering, but as it was he made the round in 20:30, at an average rate of 68.6 miles per hour. Crossing the last bridge on the way to the



ROBERTSON'S LOCOMOBILE JUMPS THE BRIDGE AT WESTBURY (Copyright, R. Tebbs)

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grandstand and coming down the decline into the S turn to the stretch, his car slung completely crosswise of the parkway, and it was only by marvelous dexterity with the steering wheel that he saved himself from plunging into the deep side ditch. He had previously taken a bridge rise side by side with Salzman's Thomas, the two cars banging hubs while at the highest point and both plunging down the descent in such close proximity as to give the appearance of almost certain smash-up. But the Locomobile came through safely, and at the end of the lap Robertson had overcome the lead of both Lytle and Stricker and was second only to Haupt in the Chadwick.

Ignition trouble afflicted the Chadwick in the seventh round, and it was only after considerable delay that parts from its two magnetos were combined to form a new one that would work successfully. The delay cost the car its lead, which it had to yield to Robertson's Locomobile. Lytle and Stricker were second and third, in elapsed time, with Salzman next, Florida fifth, Luttgen's No. 5 Mercedes sixth, and the Chadwick seventh.

Further trouble came to the Chadwick in the eighth round, when its right drive chain broke. A roadside repair was necessary. Although all hope of victory had gone glimmering with this mishap, Haupt and his mechanic gamely hurried the work and started going again as soon as they could, leaving fragments of a battered chain case lying by the roadside. Meanwhile Robertson reeled off another round in 20:36, duplicating his time of the seventh lap. Lytle's time was 21:56, while Stricker, in third position, took only 21:27 for the distance. In the next fastest bunch, Luttgen's Mercedes took the lead over Florida's Locomobile by doing the lap in 22:07 as against Florida's 25:59, while Salzman's Thomas dropped back.

Lytle gained slightly in the ninth lap, reducing Robertson's lead to less than three minutes. Stricker in his Mercedes was only about two minutes behind Lytle, figuring elapsed time, while Luttgen's Mercedes was fourth.

The tenth lap tempted Robertson to cut loose again, so that he made the circuit in 20:55, giving him a lead of 4 minutes and 10 seconds on Lytle. The pace was so fast that Stricker's car took fire, necessitating his dropping out after a magnificent exhibition of driving. This moved Luttgen up to third place, and Salzman held fourth position against Florida.

Everybody around the course knew when the eleventh lap commenced that the battle for first honors lay between Lytle and Robertson. Having started ten minutes before Robertson's Locomobile, the Isotta was the first to finish. If Robertson reached the tape inside the ten minutes thereafter, he was the winner. Lytle was finishing when word came that Robertson was off the course. His four minute advantage was being rapidly eaten up by the passing seconds, and the Locomobile rooters in the grandstand were consumed with anxiety to know what had happened to him and whether he was going to be able to finish. After about two minutes, however, the telephone brought information that he was back on the course again, after a tire replacement, headed at full speed for the grandstand. Watches were in almost every hand and eyes were fixed on the distant rise over the bridge where he would first come into view.

When the flagman on the bridge began waving his red signal that a car was coming, there was almost a hush over the whole vast crowd, and when it really proved to be the No. 16 Locomobile pandemonium broke loose. Restraining themselves until he was actually past, the spectators, knowing him to be the winner crowded on the course in the wake of his car and joined in one mad rush to get near him if possible when he should stop. All thought of the other cars still coming was banished, and the megaphone shoutings and the warning of constables, Irish volunteers and deputy sheriffs could not clear the course again.

Not knowing that the race was actually over, Florida came booming along at a speed which made it impossible for him to slow down in time to avoid crashing into a touring car, which with criminal stupidity



CROWDS OVERFLOWING THE COURSE AT WESTBURY DURING THE RACE

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had been driven out in front of the grandstand. David Shuh, an 18-year-old Brooklyn boy, was crushed between the two machines as they came together and his leg was broken, while Florida and his mechanic were pitched forward with great force. Luttgen, at speed, arrived soon afterward, but by some mystery made his way through a narrow lane of people that opened for him, without doing more damage than scraping a few shin bones with his hubs. The white danger flags in the hands of the signal men stopped the racers who were still on the course.

In the very last lap, Robinson's car had its most remarkable and exciting experience, which threatened to make him lose the race. While running at top speed on the dirt road near Plainview, at a point where most of the drivers shut off to slow for an abrupt curve, but where he did not slacken, the Locomobile skidded into the ditch at the turn. Its momentum was such that it swung up into the road again, whirled itself around in almost a complete revolution, like a pinwheel, and headed up the unused extension of the road from which it had come at the turn. During its spin, a tire burst, and when Robertson brought the machine to a stop and found himself off the course on the unused road, he commenced his tire replacement right where he was. Thanks to considerate members of the crowd, the spectators were kept well back, and the job completed in just 2 minutes and 10 seconds.

By the tearing down of the dividing wall on the top floor of the press stand after the Sweepstakes, a great improvement in the view of the course was effected. Similar improvements could be made on the lower floor.



LUTTGEN TAKING IT EASY ON VANDERBILT'S MERCEDES

SCENES DISCLOSED IN THE MISTY DAWN

There in the distance, through the thin, hazy fog, the arc lamps glimmer on the grandstand and the shafts of light from numerous passing touring cars penetrate the pearly mist in an effort to chase it away. Along the course, as far as the eye can discern cars are parked on both sides of the cement path, which has lost its beautious whiteness and is covered with slippery black mud. The cars skid and slithe and slither over it, for the emulsion of slopped oil and rain water mixed with the tracked mud makes bad going.

Two, three, and then four o'clock roll around and the throng increases and seats in the grandstand begin to fill up. In the press stand opposite, the scribes from many cities are browsing around, some attempring to work, others to sleep. The officials. timers, telephone men, scorers and others, snooze around in chairs or commence preparations for real business.

Presently the White opera bus arrives with the club of Philadelphia newspaper men, known as "The Shock-Absorbers," having made the night trip from the Quaker City in good time. Philadelphia, too, it seems, is to get news of the cup race the same week.

The rain lets up for a few moments and then starts to come down again, wetting the sandwiches and candy of the various merchants who cry their wares about the stand. Calico cigars, peanuts, pop-corn, purple lemonade and candy; hot tamales, hot coffee, hot dogs, enshrouded in soggy rolls; red apples, green apples, blue apples and mint chewing gum are all here. Umbrellas also are for sale, the market in this staple fluctuating constantly, according to conditions. Parasols that sell for. 35 cents in New York are bringing $1.50 while it rains, the price dropping to 50 cents whenever the showers cease. Salvation Army lassies are likewise on hand with their tambourines, making hay before the sun shines.

The aroma of campfire smoke is wafted along by the breezes. These small blazes grow more and more numerous along the line as greater numbers of cars appear. From the west of the stand come the strains of the cornetist of the American Locomotive Company's parking space. He is playing popular airs to arouse some of the som-

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nolent ones—some of the tunes being enough to arouse even the dead.

A brilliant light blue and yellow streak appears at the horizon, and presently a moist dawn breaks with its usual silence. The banners and flags decorating the grandstand blow in the breezes. The homoeopathic score board on the roof does not look large enough to hold the complete notation of the eleven laps and it isn't. Seconds in the lap time, which are of vital importance in such a race, are to be disregarded—only the minutes are to be recorded.

A little way down the line a trumpet sounds and then a few musical drum beats. The Irish Volunteers are approaching. Uniformed in blue coats and armed with guns, they march down to the starting tape and receive some confused orders about proceeding to clear the course. In their confusion they are not unlike the comic opera guards of stage tradition. They seem neither militant nor military.

Now they start timidly to clear the way—it is highly amusing. The Volunteers request the crowd to "please" step back and the crowd smiles, but moves not, and tells the soldiers to stop their "kidding." The spectators in the grandstand and the scribes in the opposite stand laugh loud and long. The swaggering colonel rants and blusters around, but the crowd packs solid between the pits and the stand and likewise jams about the official pavilion. The soldier boys make an effort to clear out these places, but they are like so many school children, though less active. What in the world has become of all the Irish fight in them? By degrees they get the rapidly increasing throng to give way slightly, aided by an official touring car, which plunges at the mass and forces it back.

On the second floor of the press stand Mr. H. F. Cuntz has an elaborate graduated graphic scale arranged with numerous straight and fancy curved lines drawn upon it, by which it is possible to determine, by continually making marks and notations, the relative position of each car in the contest, the speed for each lap and the average time for any number of laps up to any point of the race. It is quite an interesting sort of Chinese puzzle; simple, though apparently intricate and is Mr. Cuntz's own invention.

This same press stand, by the way, is occupied quite as much by others as by newspaper men. Advertiseing solicitors, sales managers, agents, tire makers, oil manufacturers, second-hand car dealers, undertakers, shoe clerks and glove salesmen, somehow have contrived to be labeled with "Press" badges. Only yesterday it was highly difficult to obtain sufficient badges for members of the real working staff of papers. However, there seems to be room enough for all and when the doors of the free lunch room open, there is a continuous and typically "newspaper" raid on the viands.

The racing cars are arriving now. Salzman, with his Thomas, is first. George Robertson snorts up and registers an emphatic kick to Starter Wagner and Mr. Vanderbilt, about the way the people are swarming over the course. Salzman and a few other drivers are changing tires, replacing with non-skids.

Nearly all the machines are equipped with studded tires—all wearing Michelins except the two Knoxes, Patschke's Acme, and Florida's Locomobile, the last two being fitted with Diamonds. Nearly all of the drivers and mechanics have their faces equipped with non-skidding, antiseptic masks.

Like many other of the large New York hotels, the Waldorf-Astoria made special preparations for those of its guests and patrons planning to go to the race, and a temporary outdoor garage and repair shop was installed in the Astor court, which ordinarily accommodates only palms, rubber plants, fountains and fresh air. The Palm Room was kept open all night serving early breakfasts. Over 500 special "cup race" hampers were provided for motoring parties. Loaded with roast chicken, drinks, sandwiches, pastry and sweet-meats, and supplied with a complete assortment of Waldorf monogramed knives, forks, speens, plates, cups and saucers, they sold for from $25 to $100 apiece. The St. Regis and the Plaza provided for their Vanderbilt race patronage in much the same way.

Whatever value the wire fences on the Motor Parkway may have in time of peace, they are worthless in keeping the crowd off the course during a big race. Folks just pulled it down, cut through it or climbed over. The concrete road of the Parkway, however, was better than ordinary roads for the drivers, so far as the crowds were concerned. On dirt roads the people crowd to the edges of the black streak down the center that has been oiled, taking it for granted that the cars will keep to that narrow path with the exactitude of tram cars to their rails. But the concrete road is wider, and it is only the most bold and reckless that brave death by standing within its edges.

Next year, perhaps, many of the spectators will bring their own grandstands, as H. J. Silleck did on Saturday. Mr. Silleck had his touring car fitted with a very substantial stand about 14 feet high and large enough to accommodate five or six persons. From this coign of vantage, his family observed all that was going on and were quite comfortable, save when the rain drizzled down into the little white enclosure, mounted over the tonneau, gave them a pitiful semblance to so many people in a shower bath. If others follow this example at future races, the parking space problem may become a difficult one.

At 7:25 a. m. the glorious golden sun came out and settled up in a hazy sky much like a giant, juicy fried egg. The crowd cheered and gave Old Sol considerable applause and the latter smiled blandly, stretched himself and mounted a little higher to get a good view of the race. His rays glistened on the gilt Warner Auto Meter car, with its body shaped into an enormous Auto Meter, that kept tooting its siren as it chugged up and down the road in back of the official stand.

Now that the day had brightened up, the persons of the Smart Set and the Half-Smart Set in the boxes were able to display themselves to better advantage. Standing on a chair occasionally helped a chic figure to show off a new directoire gown in a fetching manner, while a Duchess with a slab of pie in one prettily manicured hand and a chicken sandwich in the other, served to attract occasional gapes of attention. The fact that the stand was so crowded, prevented many grandames from making the sensation they had expected to and a large number missed the expected description of their gowns in the Sunday papers.

When the Chadwick entrant came up to the starting line, Charles W. Mears, advertising manager of the Winton Motor Carriage Co., of Cleveland, displayed unusual enthusiasm. "I hope it wins the race," he declared. Someone reminded him that it was not only an American car, but a six cylinder car, and that it was not so extensively represented throughout the country as to present serious competition with his own company's exclusively six cylinder products. Mears nevertheless persisted in his desire that the Chadwick should win.

After there had been an exciting brush in which one car had passed another at speed, a white moustached motorist turned to his friend and asked, "Did you ever see a 24-hour race on a circular track?" The other replied in the negative. "Well," continued the first speaker, "if you think what we have just seen is exciting, you should watch a 24-hour race some time. It's just like that every minute, and from a spectator's standpoint has this Vanderbilt race business beaten to a pulp. Don't you know, you can see all the cars all the time."

Flash bulletins were sent to Bridgeport, Conn., when the Locomobile won, and the big steam whistles of that factory where it was made was pulled wide open, as a signal of the victory. The newspapers posted the news on their windows and boards, and the town received the information with gratification. Arrangements are being made for a big local celebration in honor of A. L. Riker, the designer of the car, and Robertson the driver.

Some of the afternoon newspapers on the day of the race gave vivid accounts of Starter Wagner flourishing a nickel plated revolver, which he was supposed to fire in starting the contestants. Just plain faking, as a gun could not be heard above the explosions of the big engines.

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LIVELY DOINGS AT SUPPLY STATION

Probably at no point on the course did the spectators get more for nothing than at the official supply station on the back stretch midway between Jericho and Woodbury. Here the cars stopped when they wanted gasolene, oil, tires or other things and this was the only place where one could get a look at a real racing automobile at close range. It is surprising, too, that more people did not think of that, for there was a very small crowd at the supply station compared with the mass that flocked at the Jericho turn, where, because of the sharp downhill "S" curve, incidents were expected to take the form of thrilling exhibitions of skidding, hairbreadth escapes, and the like. As is usual in such cases the thrills obstinately refused to happen and the spectators who looked for killings had to go away disappointed.

On the other hand, at the supply station, the spectators were rewarded with plenty of action, a tense moment when Stricker's Mercedes caught fire after being run in with smoking, waterless engine, and also the sight of the cars racing by as fast, perhaps, as on any point of the circuit.

There was no buzz of excitement until after the first seven cars had passed in the numerical order of their starting, and all going well. The eighth car to pass was Seymour's Thomas. It was going along so slowly that some roadside wag was tempted to yell the time-worn injunction to "Get a horse!" Seymour heard and laughed.

All the others except Strang, in the Renault, passed the supply station on the first lap with exhausts spitting defiance into the muggy morning air. There was considerable speculation as to what had become of Strang, as he was one of the favorites, but even the telephone man could get no information from the grandstand except that he had trouble in starting. It was half-past seven when Strang finally appeared the first time, and then his car was skidding all over the road so badly that the crowd gave it a wide berth.

The first real burst of enthusiasm came when "Sunny Jim" Florida came flying around in his Locomobile. In less than a minute followed Stricker.

Where's the Knox? Where's the Knox? one and another were asking. For in the first lap Denison had been in second position. Haupt in the Chadwick followed Stricker, and then came Lytle, having passed both Luttgen and Denison.



BIRDSEYE VIEW OF COURSE AT WOODBURY CORNER

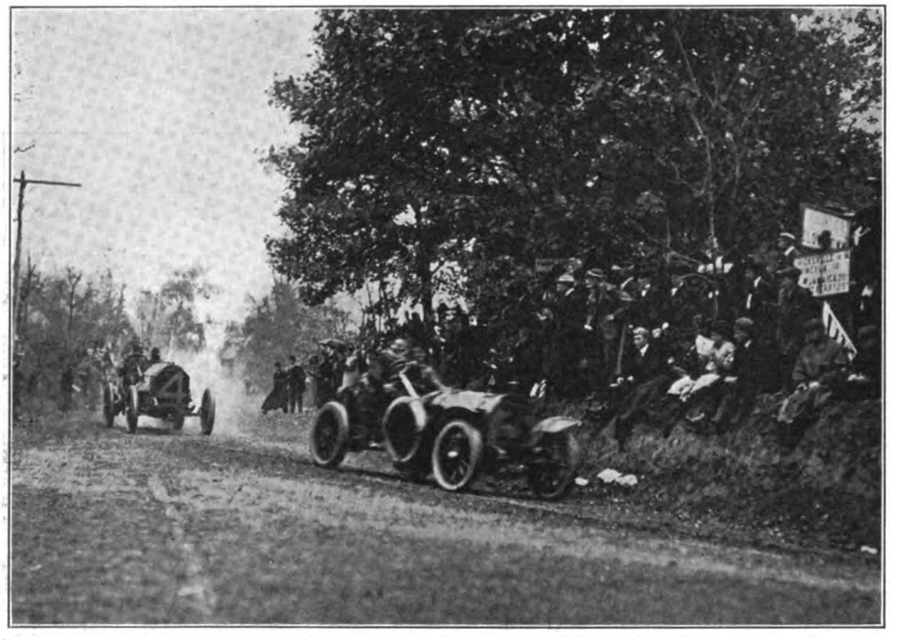
A fur-coated man in a made-in-Bridgeport car got apprehensive when he figured that Robertson in the Locomobile had been the 13th driver to start. His enthusiasm began to rise when the second lap showed that Robertson had worked from this unlucky position to ninth place. Still later in the morning, when the victory seemed to flit between Robertson and Lytle, with chances in favor of the former, the fur-coated individual became excessively joyful.

J. B. Ryall, in the Matheson, gave the watchers a four minute exhibition of quick action when he stopped on his second round. The steering gear had tightened up and Ryall and his mechanic poured buckets of oil on the "knuckles."

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The second time Strang went past the supply station his car was skidding even worse than the first, and on his third appearance he moved so slowly that it could be seen that the car was minus its gear case. A few minutes before, Foxhall Keene had waved his hand to the crowd; the next round for the gate ensued. Ryall was the quicker to start, however, and he got on the course first, but Bourque passed him several hundred yards down the road.

Things were tame for three-quarters of an hour, until Haupt limped up with his magneto advance disconnected. While this



HAUPT, CHADWICK, OVERTAKING STRICKER, MERCEDES

his Mercedes was reported on fire at Jericho.

Seymour, who had been told to "get a horse," was still laughing when he turned into the enclosure at half-past eight to replace a flat tire and also to take on water, gasolene and oil. He had been in difficulties from the start, but still he was not discouraged, even when he lost nearly ten minutes at the supply station. The oil tank was the last to be filled and Seymour was already in the seat waiting for his mechanic to finish and crank up.

"S-a-a-y," he drawled at his helper, "For heaven's sake, hurry up! I want to go out and catch one of those two hundred horsepower Mercedes."

While Seymour was laid up in the supply station Lytle and Keene passed within a few feet of each other. Two minutes later Ryall stopped for the second time. While his mechanic tinkered with a disorganized speedometer Ryall attempted to fill his tanks. He picked up a five gallon can of gasolene, but his hands were slippery and the can jolted against the supply counter. Ryall got a shower of the fluid in his face. A lot of it got into his eyes and blinded him. The pain made him wince, but he displayed Spartan courage while an attendant salved his injured optics. The accident cost him 13 minutes.

While Ryall was laid up Bourque pulled in to replace a damaged spark plug and fill the oil tank. Both he and Ryall finished their tasks at the same instant and a race was being repaired all the tanks were filled and Designer-of-the-Chadwick Nichols seemed eager to assist, and in one case handed a wrench directly to the mechanic, despite the rules, which stated that "whatever supplies are demanded must be placed on the platform of the station. Failure to comply with the above will serve as a disqualification of the car." Nichols was very nervous and in his eagerness to hand water and gasolene to Haupt spilled a great deal of it on the platform. As Haupt was about to get into the car he remembered that he had not put the cover on the magneto and he asked the designer if he could go the remaining three laps without it.

"Huh," grunted Nichols, "the damn thing is no good any way. Go on."

Seymour had to stop again at 9:30. He had lost the radiator cap somewhere on the road and although the radiator had sprung a leak he was not discouraged. He filled it with water, stuck a piece of cotton waste in the opening and tied a handkerchief over the top.

"Well, we'll get that 200 horsepower Mercedes yet," he observed as he drove away. But the next lap he had to stop for water again and as the race was then practically over he didn't hurry as much as before Denison stopped for a new spark plug at the same time.

The most picturesque scene of all occurred when Stricker and his Mercedes limped up to the stand at 20 minutes past 10 o'clock, with the engines smoking fearfully. The radiator pipes were dry as bones, so dry in fact, that oil had to be run through them instead of water for fear of cracking the cylinders.

Stricker has a vocabulary that is expressive, if not in dictionaries, and the disappointed driver had no hesitation about saying what he thought. The circulation fan was broken and Stricker got a hammer and tried to knock it off, his conversation with Conner, his mechanic, running something like this:

"Connor—bang—I think—bang—you are a—bang—old hoo—rip—doo. Well—bang—we'll get—rip—'em the—bang—next time—



HOT BRUSH ON A WELL GUARDED TURN

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bang, bang—Well, if this—bang—isn't a hell —bang—of a note!"

Then Stricker stoped his hammering to express himself more freely. Just then Robertson flashed by.

"Go on, old lightning! Go on while you can. You may get yours before long."

Hardly a second later the Mercedes caught fire. The small crowd that had been listening to Stricker's expletives made a bee line for the road. Stricker and Connor scooped up a bucket of earth and tried to smother the fire, but that didn't suffice and just that moment a thoughtless stand attendant rushed up with a bucket of water which he was about to dash over the flaming engine.

"You do and I'll kill you," said Stricker as he grabbed the pail of water in time to prevent the engine from being hopelessly ruined. A piece of heavy burlap brought by a thoughtful Diamond tire camp attendant finally smothered the flames.

Only a few minutes after the Mercedes had ceased smoking the news of Robertson's victory trickled in over the telephone. Plenty of Locomobile enthusiasm materialized at the instant, but there was a greater patriotic demonstration over the fact that an American driver in an American car had won the classic cup contest. Some of the Loco "rooters" had a big flag with the numeral "1" on one side and "16" on the other. An enthusiastic spectator grabbed the flag from the touring car where it reposed, waved it exultantly over his head and yelled:

"'Ray! 'Ray f'r Bryan an' zhe Locomobile. 16 to 1. 'Ray!"



LOCOMOTIVES PARKED NEAR GRANDSTAND



PARKING SPACE OF THE MAXWELL CARS

AMID ACTION ON THE BACK STRETCH

As a matter of fact, to one whose interest in the event lies quite as much in its spectacular value as in its action as a contest, it well repays the effort to make a personal tour of that section of the course which seems to promise a maximum of variety and incident. A good sample of varied effects was promised—and delivered—last Saturday on the stretch which lies along the Jericho turnpike between the railroad crossing and Woodbury.

At the railroad crossing, a momentary horror was caused when the first morning train on the Wading River Branch of the Long Lsland Railroad arrived about half an hour behind its schedule, and after slowing down, was given its signal to go ahead, just as a car came into sight. A quick change of signals however, brought it to a stop while the car cleared the crossing. A couple of minutes later, just as it was blocking the course, a few late arrivals were treated to the sight of another of the racers, Chevrolet's Matheson, in fact, bearing down on it at great speed. The driver's judgment was good, however, and the expected accident was averted by about six feet. Shortly after 8 o'clock, a train running toward New York became a target for Haupt in the Chadwick, but removed itself from the course in season to permit him to go on with but an instant's application of the brakes and far less actual peril probably than, as the crowd saw it, appeared to exist.

Throughout this portion of the course, oil had been used freely, and this fact, coupled with the presence of water standing over from the early morning rain, made the handling of the cars a matter of extreme nicety. The minor bends, which ordinarily could have been taken without risk of any sort and at high speed, even as they were later on in the race, proved more than deceptive, and during the early rounds the drivers were forced to exert an amount of effort at the steering wheels which must have been terribly fatiguing. Seldom did a car pass without leaning either to one side of the road or the other, and usually at the little rise just east of the crossing, more or less side switching occurred, according to the tendencies of the car and the skill of the pilot.

Haupt, Stricker, Salzman and Strang were among those who had trouble of this sort, particularly at the top of the slight rise just under the banner which marked the approach to the railroad crossing. Strang, in fact, seemed under a cloud in this respect, throughout his unfortunate career in the race. Judgment is hastily made at such times, but it seemed that the car must be ill-fitted for its work in some way, so badly did it behave in this respect. Hardly did it pass without showing a tendency to swing from side to side, and it was evident that the driver's skill was being taxed to the utmost to keep in the center of the road and still maintain anything like a telling speed.

Lytle, on the other hand, was blessed with ample security, for his driving was marked by no deviations from the slippery path, and though his early rounds appeared to be made at comparatively slow speed over this section of the course, it was unquestionable that he was destined to figure well up at the finish. Florida, Robertson, Luttgen and Kilpatrick all appeared to have good control of their cars, though now and then one or another would experience a ticklish little skid way out to the side of the road, just where there appeared to be nothing to cause it.

"What machine is that No. '1'?" inquired a little curly haired constable, shortly after Florida had passed on one of early rounds.

"No. Where is it made?"

"Bridgeport! American machine?"

"—— Well long's its made here, it's all right. Long's an American machine wins it, I don't care."

The sentiment was heard many times during the morning and at different points along the course, but mostly from the native population, whose interest in a Vanderbilt race never was keener than at this time.

Along this back stretch, the course was not over-crowded, which was fortunate, as otherwise the deputies would have been de-

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plorably unequal to the task of clearing a way for the drivers. There were few spots which had not their little groups, however, and where the woods came down to the road, touring cars would be found drawn up out of harm's way, while elaborate picnic layouts were spread in the undergrowth beyond, just within sight of the course and its action.

In contrast to the eager watchers of the race were sundry excited little knots of men which were to be seen here and there along the road toward Woodbury. At the very heart of the pack always, would be a mum-



CARS PARKED IN CHURCHYARD AT WOODBURY

my faced individual, hoarse voiced and slick, who deftly manipulated the three little shells, saying: "Nothing under this, nothing under this, nothing under this,"—which usually seemed to be true; or else shifting about the three delusive cards.

Inquiry as to why the deputy sheriffs paid so little heed to these hardy reapers brought out the statement that their instructions were confined solely to matters connected with clearing the course. About half a mile from the Woodbury turn, and just where Stricker was delayed for some time with ignition trouble during the middle of the race, a particularly thrifty quartette was plying the shell game and winning the "Fives, tens or twenties, boys." Less than a city block beyond, and over a knoll which was hardly high enough to drown the sound of their voices, were gathered together no less than eight hardy scions of the Long Island people, each bearing a special deputy's badge and number. The eight numbers were 302, 303, 304, 193, 294, 299, 297 and 298, and the proud wearers of the last three were seated side by side on a log and comparing score cards, while wreaths of strong blue tobacco smoke curled from their pipes.

Instances of constabulary inefficiency were numerous. Just to the west of the Woodbury turn, where the Chadwick car met its Waterloo in a broken driving chain, which delayed its passage for more than a half hour, two of these braves stood on the outside of the group which blocked nearly the whole of the road, and, beyond shouting a warning and themselves dodging out of the way, scarcely made any effort to get a passage free in season for other cars to pass.

At the Woodbury corner itself, toward the conclusion of the race, a native wearing the badge of a regular deputy sheriff of Nassau County, was found seated on a log directly in front of a large touring car which was headed out of a parking space inside the turn. Approached with the oft-repeated question as to whether he had any authority to quell gambling by the course, he replied that while the special deputies who were sworn in for the occasion, probably had no orders to look out for "crooks" of one sort or another, he was regularly on duty. "And I've stopped every game I've seen this morning," he added.

But when it was suggested that if he would but turn his head he would see another, which as a matter of fact actually was in vociferous progress directly back of the car, he replied that he had been posted where he was, and could not leave because the party in the car was trying to get across the course and he had been ordered to stop them, come what might.

In fact sharp badinage was even then in progress between the constable and a champion of the party who stood beside the car, and who explained confidentially to the former, that this was Police Commissioner Bingham's private secretary, Dan Slattery, who was more than anxious to get back to New York for the resumption of his duties. The deputy didn't care who he was, he said; his orders must be obeyed, and he stoutly refused to entertain the humorous suggestion that he turn his head, or go and apprehend a supposed pickpocket who was pointed out on the other side of the course.

As at every turn on the course, Long Island ingenuity was displayed to its utmost advantage in the luring of the visitor's coin. More than ordinarily luring, however, was the net spread by the followers of John Wesley, who worship on Sabbaths at the little white church just around the corner at Woodbury. Here large signs posted on trees and fences ran as follows:

PLACE YOUR
AUTOS HERE
ON
DAYS OF RACE.
APPLY TO
W. H. GILES, Sexton.

In addition to the income from the use of the lot as a parking place, chairs from the interior of the sanctuary were set out upon the porch and rented to the weary visitors at so much per sit, while against the fence of the adjoining grave yard a cooking range was installed, and several tables spread out and heaped with the good things of the neighboring farms. The cemetery itself also boasted a chair or two and a number of visitors who paid little heed to the epitaphs From a window well up toward the belfry leaned a muezzin, who, with book and watch called, not to prayer, but to witness the passage of the cars one by one, the numbers of which he could see from afar as they came down the incline beyond the turn. Half of what was made, went to Mr. Giles in his official capacity, it was learned, and the other half to the cause of the Methodist Episcopal church. How the venture turned out could not be learned, but one doubting sister who had pitched her tent just inside the corner and was serving a mysterious chowder to such as were anhungered, was inclined to question whether any great wealth had been accumulated. Because, as she said, most of the visitors "had fetched their own lunches, and didn't want nawthin' else."

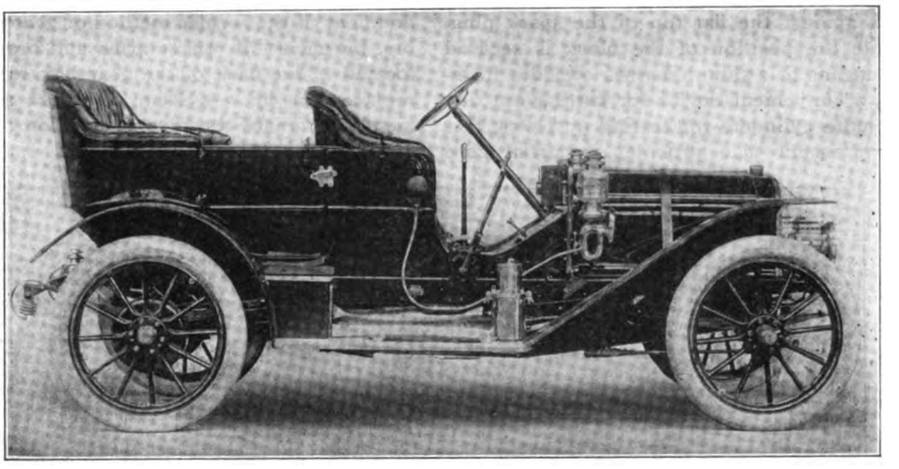
At about a quarter to 11 word was received that Robertson had won. Instantly there was a jubilation, as at all other points on the course, and a newsboy who had been vainly trying to sell a special edition of a New York morning paper burst forth with: "Full acount, Robertson wins Vanderbilt Cup Race." The crowd started to break up, but was held partly in check. Ten minutes later Denison came along in his Knox, and just after he had passed an attempt was made to flag him as another message had been received at the telephone, stating that the race had been called off.

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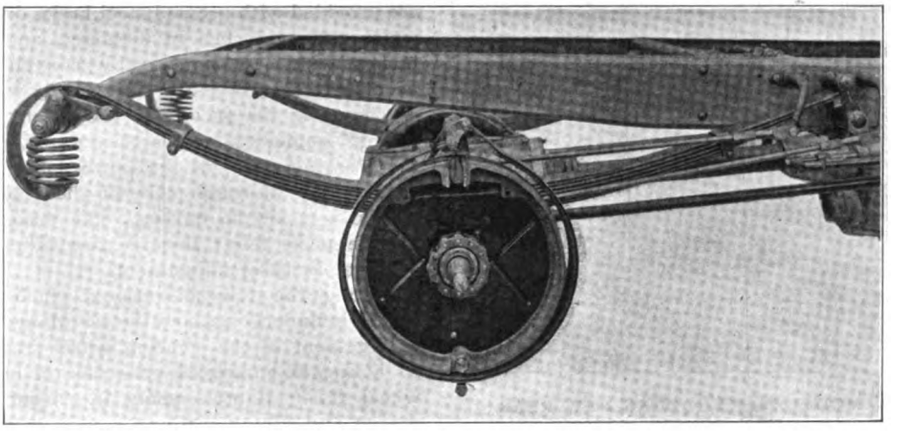
FOUR RAMBLER TYPES FOR 1909

Announcements for the Coming Season Include One Entirely New Car—Important Changes in former Models.

Four distinct types of Rambler cars are forecasted by the announcement of Thomas E. Jeffery & Co., of their plans for the forthcoming year. In addition to the models already made one entirely new car will be produced at the Kenosha (Wis.) factory for the output of 1909. Other models, though given new designations, perhaps, are essentially the same in design and construction as at present. The leader of the line will be Model "44," successor to the Model "34" in current service. Second to this is the new Model "45," while at 22 horsepower, and driven by a twin cylinder, opposed motor, the Rambler "Utility car," as it is called, remains practically undisturbed in its field. The fourth member of the group



RAMBLER MODEL "44"



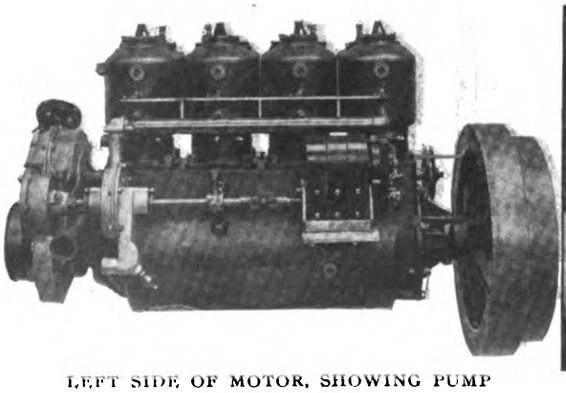
TRIPLE ACTION REAR SPRINGS AND BRAKES

is the Model '47," which differs from the last-named car principally in having seats for two or three passengers instead of the full five of the other.

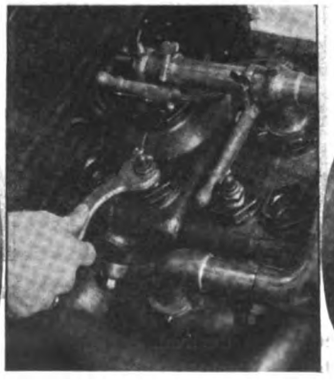
Except in the matter of size, power and price, Models "44' and "45" are alike. Actual differences between them exist in the engine dimensions, the wheel bases, tire sizes, and body capacities. The Model "44" engine is four cylinder in type, and of 4½-inch "square" measurement. In its previous form it had an output of 32 horsepower, but by increasing the valve diameters, as well as the carburetter capacity 2 extra horsepower have been added to that figure. As heretofore, one of the most distinctive features of the machine is the offset crank shaft. The flexibility thus secured has been extended in the latest motors by the addition of 26 pounds extra weight to the rim of the fly wheel.

Another important change is the doubling of the face width of the two-to-one driving gears. A single-piece crank case is used, and the crank shaft is inserted from the rear end. The bearings are so constructed that they may be adjusted from the hand hole opening in the case without the necessity of dismounting any parts. The hand hole is placed on the right hand side of the motor and is of sufficient size to afford ample opportunity for adjusting the connecting rod bearings as well as the main shaft bearings. A small added convenience, useful in this connection is the adoption of quick detachable front mudguards, so arranged that they can be quickly dismounted in order to give ready access to the lower portions of the engine. By elevating the exhaust manifold slightly in the new models further convenience is secured in more easy approach to the valve stem, adjusting nuts and screws. Other changes made with similar ends in view include the more elevated position of the timer and the use of flexible cable for the primary as well as the secondary current.

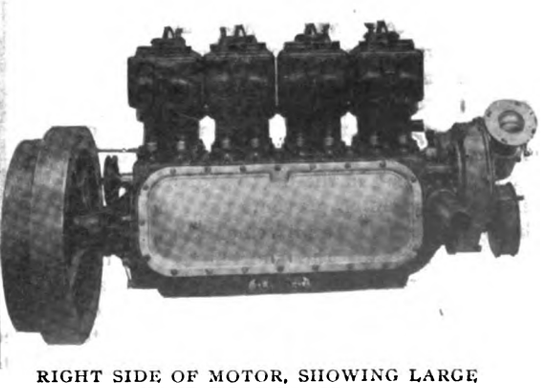
An entirely new method of connecting the high tension terminals with the spark plugs is worthy of special mention. Instead of the all too familiar loose-stranded arrangement of heavily insulated wiring, the leads terminate in a fiber block, which, is affixed to a suitable bracket mounted on the upper water pipe. A metal strip fastened to the lower side of the block is designed to



LEFT SIDE OF MOTOR, SHOWING PUMP AND MAGNETO



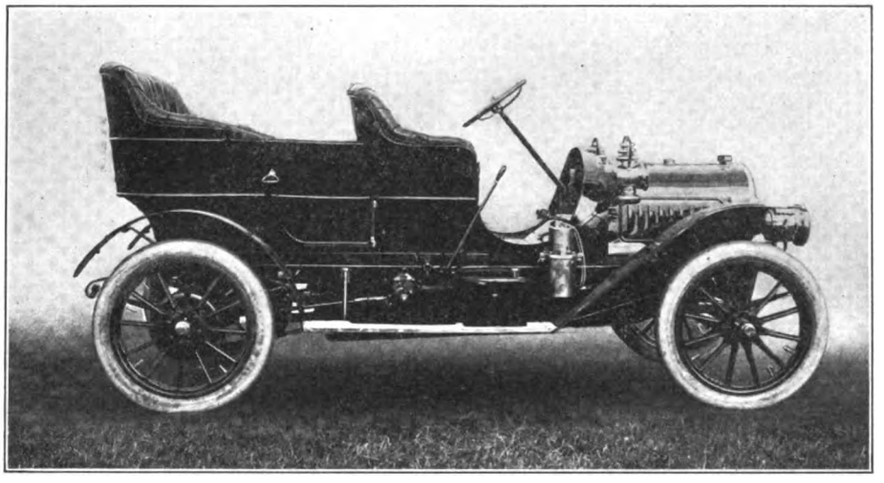
SPARK PLUG CONNECTION



RIGHT SIDE OF MOTOR, SHOWING LARGE HAND HOLE PLATE

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rest against the flat top of the spark plug, while the position of the block is secured by means of a thumb screw. Besides forming a convenient device for cutting out one or more cylinders for testing purposes, this arrangement also provides a partial cure



RAMBLER MODEL "41"—UTILITY CAR

for soot-fouled plugs, since by raising the blocks very slightly from the plugs, spark gaps of any desired width may be secured. To free the plugs in order to remove them from the cylinder, the blocks merely are lifted out of the way and the operation involves no handling of wires or terminals. Ignition is by jump spark, though the Bosch high tension magneto may be obtained on special order as an extra option.

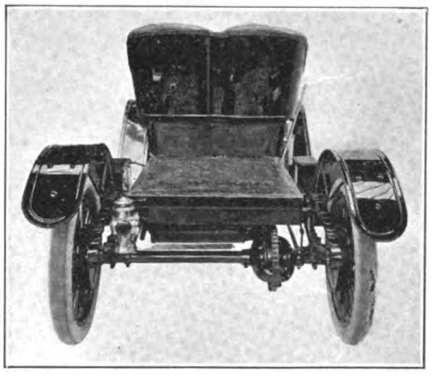
The pump drive now is placed on the opposite of the crank case from the cam shaft, and the pump housing is made entirely separate from the crank case so that in the event of leakage at the stuffing box, no water can find its way into the motor. A new type of pet cock has been adopted, which is so contrived that a check valve, spring retained, prevents any possible loss of compression, while relieving any vacuum which may tend to occur in the cylinders when running down hill under closed throttle. A new location for the automatic oiler, as well as a 50 per cent. increase in its capacity, also improve the running of the machine not a little.

An improved form of direct-acting cone clutch has been made to supplant the balanced, inverted cone formerly employed, its construction involving the use of a pressed steel disc instead of the more common aluminum member. Easy means of adjustment is provided, while the use of a camel's hair pad in the bearing provided for releasing the clutch prevents spinning when changing gears. Improvements in clutch actuation include the shortening of the length of travel of the pedal, and an arrangement whereby the first 2 inches of brake lever movement secures the complete disengagement of the clutch. The change gear remains practically the same as heretofore. A minor exception is in the abandonment of the former method of gear shifting, by means of rocker arms and brackets located at the back of the gear box, and its replacement by a system of direct movement. To guard the reverse position a sort of gate lock is provided, which may be raised when desired, by pressing a button located in the foot board.

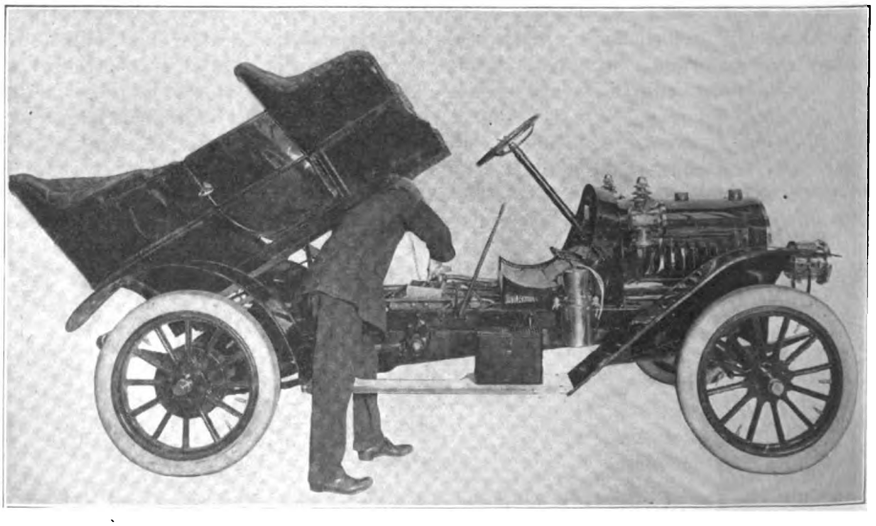
Such provisions as increases in brake leverage, the provision of a new method of hand adjustment for all the brakes, and increased size in the steering parts as well as improved methods of compensating for wear—are among the strong points which will be noticed in the new models.

The two two-cylinder models—"41" and "47"—have not been altered materially in preparation for the new season. The unit power plant, with its parts housed completely, in fact, is carried over without alteration. The floating type rear axle is mounted as heretofore on roller bearings at the hubs. A new feature of the construction, however, is the replacement of the aluminum housing which has been used on the models of the past two years, by a heavy forged yoke. This provides greater clearances and greater strength, without need for a thrust. Indeed its high road clearance is one of the strong points of the car. As the driven sprocket comes at one side of the center line of the car, it is enabled to dodge many obstructions which otherwise would interfere with it, thus giving the effect of a clearance even higher than it really is. The height of the wheels employed—34 inches—also adds to this desirable effect. The rear wheels are provided with pressed steel brake drums, which are 13 inches in diameter, and 2½ inches wide. A noteworthy convenience peculiar to this car is the tilting body which, as shown in the accompanying illustration, permits immediate access to any and all of the working parts of the power plant and renders the thorough care of the machine a relatively simple matter. The design of all the parts tends toward ease of access and simplicity of adjustment.

Among the few alterations which this model is undergoing may be mentioned the enlargement of the steering wheel from 14 to 17 inches, improved construction in the wheel itself, improvements in carburetter design and timing yielding a very material increase in power, despite the fact that the rated output still remains at 22 horsepower. The wheel base is 106 inches, and the tires are 34 by 4.



MODEL "41," SHOWING NEW REAR AXLE CONSTRUCTION



MODEL "41," SHOWING METHOD OF TILTING BODY TO MAKE REPAIRS

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PREVENTION OF EXCESSIVE WEAR

Proper Placing of Bearing Parts—Oil Retaining Devices and Protection Against Mud—Methods for Lubrication.

Within limits it may be said that the life of a motor car depends on the susceptibility of its parts to the destructive influences of abrasion, or in other words, plain wearing of connecting parts. Accidental causes of derangement aside, it may be considered that the broadest and most useful field for improvement in modern motor car practice lies along the lines of alteration which in one way or another tend to prolong the life of the bearings. Touching upon the causes and methods of prevention of wear, F. H. Royce, in a paper read before the British Association in Dublin, also takes occasion to score roundly the designers of many well appearing cars, who are inclined in his opinion to neglect many of the basic principles of mechanics.

"It is at first difficult to believe, but an examination of cars at an exhibition such as the annual show held at Olympia and the Grand Palais, Paris, makes it quite clear that, while a certain small proportion of chassis are obviously designed by men who are good engineers and who have taken great pains and care to make their designs as nearly mechanically perfect as the conditions will allow, there are many chassis which show that the designer is either extremely careless concerning, or has little knowledge or perception of, the science of mechanics," is his trenchant observation. "These latter chassis may, after a certain number of poor pieces have been eliminated, be more or less workable, and may, if well manufactured, satisfy the average purchaser's examination; but, owing to poor mechanical features, are bound to be costly in maintenance.

"For instance . . . . in such important features as connecting rods, shafts in change gear boxes, road wheels, and wheels running on studs, the bearings are so disposed that the load or pressure does not fall in the center of the length of bearing; or, in the case of two rows of ball bearings, does not fall between the two bearings; or, worse still, falls beyond and quite outside the bearing.

"Absence of regard for the mechanical canon that pressure should either be centralized on or equally distributed along the whole length of a bearing is undoubtedly the cause of wear in many motor cars.

"Road and other stresses cause twistings and deflections which may throw out of alignment various parts. Take, for instance, a comparatively rigid crank chamber fixed to the frame. The frame, owing to road irregularities, twists, and its side members thus act as powerful levers tending either to break the attachments or twist the whole crank chamber. In the latter case, the bearings of the crankshaft become deflected from true axial alignment, causing excessive load to fall on small areas. Rapid wear, if nothing worse, must result. . . .

"Again, there are crank shafts which have evidently insufficient support, such as double cranks with no bearing between them. In these cases, again, we have the distressing knowledge of crank pins bent out of true alignment. Excess of pressure on local spots, and the crushing out of lubricants at such spots, must, we know, be attendant under these conditions, and more or less rapid wear must result. . . . .

"Another instance of improper design is found in cars in which the torque rod, used to control the back axle, is so fixed that no provision is made to allow of the movement which must take place when one back wheel rises higher than the other owing to its surmounting an obstruction on the road, or owing to an uneven road surface. In such a case some slack must exist in the joints or the part must bend. . . . .

"Another point that may be mentioned in connection with design is the importance of arranging that parts which are subject to much friction (such as gears, road wheel bearings, and universal joints) should not only be fitted with oil-retaining devices, but also protected against mud and water.

"One sees universal joints on quite a number of expensive chassis which are not provided with any case at all, or perhaps provided with cases which cannot retain oil against the high centrifugal force engendered. It is hard to imagine the lubrication staying on a joint revolving at from 300 to 1,500 revolutions per minute, if it has the slightest chance to escape. In the absence of an effective oil-retaining case, these revolving joints may be trusted to get rid of any oil or grease which may be adhering to them, just as effectively as the hydro-extractor may be trusted to throw out the liquid. The same force will act equally well in either case. . . . .

"It must, however, be remembered that a case which is oil-retaining need not necessarily be water-excluding. Especially does this remark apply to road wheel hubs, which often allow water to be admitted. This is disastrous where ball bearings are employed.

"The choice of materials used in the construction of a motor vehicle are chiefly important for two reasons: 1. To avoid breakage; 2, To resist wear. . . . .

"If the film of lubrication could be perfectly maintained, the material used for the wearing surface would be quite unimportant. Aluminum, one of the worst wearing metals, might be employed; but one cannot rely on the lubricating film always keeping the surfaces out of contact. In the case of the crankshaft, the position of affairs is aggravated by the fact that the steel, in order to be really tough and reliable, is said to be in a state of pearlite, which, it is stated, under conditions of imperfect lubrication and in contact with hard bronze bearings is very likely to seize. Hence the success of such alloys as will run with such a steel shaft for a time fairly well without lubrication. Probably the most remarkable of these in that respect is lead, and alloys containing large proportions of lead, but the writer has always thought these too plastic to stand the severe mechanical stresses they are subject to in motor car work. Genuine Babbitt metal of tin, antimony, and copper seems excellent for crankshaft work if properly applied.

"In almost every other part of a car the wear is taken on ball bearings, or the parts are capable of being case-hardened.

"Excellent results can be obtained with a properly case hardened shaft or other surface running with bronze bush or bearing. This combination is not nearly so exacting with regard to perfect lubrication as when one of the surfaces is of unhardened steel. Care should be taken to secure that the case-hardening is of sufficient depth and is free from soft places, the shaft being ground down a few thousandths of an inch to exact size on a precision grinding machine, and well polished.

"Referring to gear wheels, which should in nearly all cases be thoroughly case-hardened, the selection of material is more important under the heading of breakage, because any mild steel will case-harden almost glass hard, but unless carefully selected and heat-treated, may be as brittle and weak as a zinc casting.

"Ball bearings carefully arranged and well made are wonderful things, carrying enormous weights and bearing considerable ill-treatment, but the materials for these deserve careful selecting. It seems that both balls and races should be made of a good high carbon steel (although even this is improved with a small percentage of chromium), but good results have been obtained with exceedingly deeply case-hardened mild steel. Really, this amounts to much the same thing as using high carbon steel, as the hard casing, to be satisfactory, should go nearly through. . . . .

"Next, let a warning note be sounded as to what kind of oil to use. This can be roughly outlined as follows: Do not use thin oil; do not use stiff grease; use oil of ample viscosity (body), and of good lubricating properties; and lastly, use the very thickest oil that will always be liquid, for all parts except the engine. . . . .

"Reverting for one moment to a question of design, it should be added that there are points where the film of lubricant cannot be continuously maintained. In these positions the ball bearing and the case-hardened surface come as a valuable aid to the designer."

The three points which the author regards as essential to success in the prevention of wear are: "Satisfactory (and, as far as possible, automatic) means of lubrication; ample or thoroughly case-hardened surfaces; protection against mud and water."

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TOWNS MAY BAR MOTOR TRAVEL

Massachusetts Supreme Court Sustains Closing of Roads—Denies Existence of Natural Rights in Highways.

It has been definitely decided by the Massachusetts Supreme Court that the selectmen of towns and the aldermen of cities have the right to exclude automobiles and motorcycles from certain streets of a town or city in addition to their full power to regulate the speed of automobiles in their localities. This important decision is the outcome of the test case of the Commonwealth vs. Arthur L. Kingsbury, of Northampton, Mass. The case reached the higher court on appeal from the district court of Franklin county, which found the defendant guilty of running his car over a closed road in Ashfield.

The contention of the defendant was that he had as much right to run his automobile through a town or city highway, as the driver of a horse-drawn vehicle and that the law under which the way in question was closed, deprived him of his rights guaranteed by the constitution of the state. It was further contended that there was nothing dangerous about an automobile as an automobile, and that with the laws now on the books regulating the speed of such vehicles, there was no reason for interfering with the reasonable running of a motor car on any public way.

District Attorney Irwin declared that the experience of the State had been such as to make it appear advisable to the Legislature that very full powers, as to the exclusion of automobiles from certain ways, should be delegated to the selectmen of towns and aldermen of cities. He contended that there was an element of danger in the automobile itself, due to the uncertainty attending its control by the driver, and that in view of that uncertainty, it was entirely reasonable that thoroughfares should at the discretion of the town and city authorities, be closed to travel.

The Supreme Court's opinion was written by Chief Justice M. P. Knowlton, of Springfield, and embodies the views of District Attorney Irwin, his fellow justices concurring.

The Kingsbury case began in September, 1907, when a complaint was filed with the district court of Franklin county, charging the defendant with having operated his car over Center street, Ashfield, which had been closed to automobiles in accordance with a notice posted in the street to that effect. The defendant admitted that he did operate an automobile over the road in question; that he knew that automobiles had been excluded therefrom; that he was conveying in his automobile a friend who desired to visit Mrs. Howe, his sister, who resided on that street; that Mrs. Howe's residence could not be reached without traveling over some portion of a "posted" highway; that the defendant took the shortest of three "posted" roads in going to Mrs. Howe's; that the highway was an ordinary country road, the traveled part of which was about 12 feet in width.

Kingsbury lost his case and appealed it in November, 1907; then lost again. The recent decision of Judge Knowlton upholds both of the former ones in every respect. The court holds that the selectmen of Ashfield in making the regulations in question, acted under the police powers delegated to them and the other selectmen, by the legislature.

A portion of the District Attorney's argument which the court upheld was as follows:

"The statutes are presumed to be constitutional. This presumption prevails until the contrary is shown. In the enactment of a statute good faith and knowledge of existing conditions on the part of the legislature are presumed.

"The operating of automobiles in the public ways may be regulated under the police power of the commonwealth. Nor is their regulation by the police power repugnant to the constitution as special or class regulation. The states have a right to enact laws applicable to a given class of individuals only, so long as the classification is reasonable and not arbitrary. The 14th amendment to the United States constitution does not control the states in the exercise of the police power.

"The police power is inherent in the state. It is the central force, the long and strong arm of organized society, compelling that which should and restraining that which should not be done. . . . . Through its operations the legislature has plenary powers over the public ways. . . . . The commonwealth exercises its control over the public way either by direct command or by delegating authority to local municipal authorities, specified commissions and boards.

"These matters are the concern of our legislature by the power granted to it by the organic law of the commonwealth. Chap. 1, section 1, article 4, reads: 'And further, full power and authority are hereby given and granted to the said General Court from time to time, to make, ordain and establish all manner of wholesome and reasonable orders, laws, statutes and ordinances, direction and instructions, either with penalties or without, so as the same be not repugnant or contrary to this constitution, as they shall judge to be for the good and welfare of this commonwealth, and for the government and ordering thereof, and of the subjects of the same.'

"In the view of the powers so granted, and of the way in which the same have been exercised by the legislature, with the approval of this court, may it justly be claimed that the ubiquitous meanderings of the automobile upon our public ways may not be regulated thereby?

"The defendant claims that 'the use of highways by automobiles is a natural, ordinary and reasonable use of them, and automobiles have as much right upon them as horse-drawn vehicles,' and that the "legislature has not, in the exercise of the police power, the right to make special regulations excluding automobiles from particular roads and ways.'

"Perhaps it may be permitted to suggest that the use of public ways by these machines has been unnatural, extraordinary and unreasonable; hence the legislature has undertaken to curb them a bit. In passing, it may be said that there are no natural rights in any person in public ways, such rights are developed from the state."

Court Defines Gasolene Storage.

In a verdict handed down by the Superior Court at Barnstable, Mass., on Saturday last, 24th inst., it was clearly established that a special license from local authorities to store gasolene is not necessary when the only gasolene on the premises is kept in the tank of an automobile. The decision was reached in the case of Henry C. Lambert, of Hyannisport, and is of especial interest to Massachusetts motorists who stable their own machines.

The case created no little commotion for Lambert had allowed as many as five motor cars, owned by summer residents, to be stored in his barn last July, despite the refusal of the selectmen to grant him a license. He was arrested in consequence, haled to court, from which he did not escape until he had been found guilty and fined $50. He appealed the case and continued to rent his barn for motor car storage in the same old way and the next month he was arrested again and fined $50 more on the same charge. Lambert went home and re-opened his barn for business once more and appealed the case for the second time—in this instance to the Superior Court

When a jury was finally impaneled, Justice King took the case under advisement on this statement of facts agreed to by District Attorney James M. Swift and Attorney Ellsworth: That Lambert rented his barn for the storage of automobiles, five in number; that buildings were within 50 or 100 feet of said barn; that each machine was propelled by gasolene and had gasolene in the tanks of the car, sometimes as much as 20 gallons in a car; that no gasolene other than that in the tanks on the cars was kept in the building; that he had no license to keep or store gasolene on the premises. Much to the chagrin of the indignant villagers from the "Port," the court ordered the jury to bring in a verdict of "not guilty."

Motor Races for Ohio State Fair.

A series of automobile races is to be held in Dayton, O., Saturday, October 31, at the State fair. In addition to the regular races, a number of novelty events, and motorcycle competitions will be on the program.

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WHO WANTS AN "ENDORSEMENT"?

Made to Suit While You Wait—It Looks Official and Comes Easy—How the Game is Worked.

The old familiar "United States Trade Reports," like its twin brother the "United States Health Reports," is still "doing business" in the same old way. The "Trade Reports" usually is being published whenever its proprietors get hold of a "good thing." Just now they appear to be looking in the automobile industry for things of the sort and any manufacturer who has either a motor car, a motor tire or even a platinum point which he desires to have "endorsed" as being "without an equal," or "undoubtedly the best on earth," or "the most hygienic in the world," will not have the least trouble in obtaining the "endorsement"—provided he invests in a sufficient number of copies of the "United States Trade Reports."

If the manufacturer is of the same stripe as the publisher of the alleged "reports" he will send reprints or marked copies of the "endorsement" to his friends and customers and if they are "easy" they will swallow the dose without a gulp; if they reside abroad they will not only swallow the puff but will become possessed of the idea that the "endorsement" is a more or less governmental endorsement, which idea is designed to be conveyed by the title of the publication, which usually consists of a lot of overripe standing matter into the midst of which each "endorsement" is dropped as the "good things" are gathered in.

The manner in which owners of these alleged "United States Reports"—which repeatedly have been exposed—operate is shown by the stuff they are now circulating in the automobile trade. When the "good thing" is selected he receives a letter of the following tenor:

The enclosed article is an editorial prepared on the subject of Auto Motors, which we intend to publish in our columns. Our policy of furnishing reports on any commercial matter about which our readers may request information, brings us numerous inquiries on all subjects pertaining to trade. This editorial gives facts that are needed and will be appreciated by a large number. As we have highly endorsed your make of ———, and as we desire to be as correct and comprehensive as possible, we ask that you add to or alter same as you may think best, and return as soon as possible. If you have any cuts that will illustrate the subject, kindly loan them to us and we will return them promptly.

As this is an editorial of course there is no charge for the publication and if in addition you can use any extra copies of the issue in which it will appear, we will be pleased to make you the following special reduced rates, as we are desirous that you should get as much benefit out of it as possible.

The price of the United States Trade Reports is 15 cts. per copy, but we can supply you with 10 at 12 cts., 250 at 10 cts., 500 at 9 cts., or 1,000 or over at 8 cts. per copy, shipped to you. Or, if you will send us a list of names of those whom you wish to reach, we will mail marked copies to such, without any extra charge to you for the postage, wrapping, addressing or marking.

Although the publication does not depend on an order for copies, such an order will be appreciated by us.

Awaiting an early reply with corrected copy we are,

Yours very truly,

UNITED STATES TRADE REPORTS.

The "enclosed article," which constitutes the "endorsement," almost invariably is as follows:

THE BEST MAKE OF ———

We fully appreciate the difficulties the prospective buyer finds in obtaining a truthful and correct answer to the question, "Which is the best make of ———?

In the first place, he himself cannot know all the different kinds, and therefore cannot decide for himself.

Second, he cannot depend on the opinions of others, as they, like himself, cannot know all the various makes, or may be prejudiced in favor of the kind they use.

Third, he cannot take his choice from reading matter and advertisements of manufacturers, since one and all believing they are right, and justified in saying so claim their respective make the best.

Fourth, he cannot expect to have his question answered by any journal devoted to the trade, for in so doing such journals would commit financial suicide, since all other manufacturers, except the one given as the best, would at once withdraw their advertising patronage.

In view of the difficulties to a correct decision, this paper decided to make a thorough investigation, the result of which would be a decided answer as to which is the best. We fully realize the responsibility of making such a decision, since we are aware that our readers will accept it as final and worthy of fullest credence. For the benefit of new readers we wish to state that such faith on the part of our old readers is caused by their knowledge of the invariable method pursued by the Reports by which we can conscientiously give an independent and unbiased report on any article manufactured. This method consists in examining closely all the various makes, by means of our editorial and reportorial staff, without the knowledge of any manufacturer interested, and, further without making any charges, accepting any gifts, or soliciting any advertisements from any one whose wares we may pass upon.

As a result we are prepared to state that there is no make of ——— on the market today equal to those manufactured by the ———, of ———. These ——— are made of the best material, are durable in use, perfect in construction and will give satisfaction at all times.

The company is thoroughly reliable in every respect and can be depended upon. Their business is conducted on a line that is pleasing to each and every customer, and promptitude is a special feature of their business methods. They also stand high commercially.

Our interested readers will do well in addressing them direct, as we are sure that all dealings with them will prove mutually beneficial and profitable.

Mexico Uses 1,600 Automobiles.

Mexico at present boasts the use of some 1,600 automobiles. Of this number 1,200 are in use in Mexico City alone.

PRICE CUTTERS GET A SETBACK

Accessory Makers Will Refuse Supplies to the "International Automobile League" —Curtin Blocks Its Game.

Many prominent makers of automobile accessories have writen to Thomas E. Curtin, of the Curtin-Williams Automobile Co., of Columbus, O., declaring that the International Automobile League, an alleged association, which promises cut prices on motor supplies, cannot obtain goods from them to be sold at less than the regular prices, and that they will prevent, so far as lies in their power, the sale of their products either to the league or its officials. The president of the league recently wrote Curtin offering to waive the $50 fee which the league says it ordinarily exacts, if his company would be the first to represent them in Columbus. Curtin replied that if he wanted to cut prices he could do so without paying for the privilege, and later addressed some remarks to the Columbus Automobile Club on the subject. As his remarks somewhat interfered with the league's negotiations with the club, Curtin was written to again and taken to task. His answer is the exhibit of the accessory makers' letters, showing their disposition toward the league.

Boom in British Factory Sites.

According to American Consul Frank W. Mahin, of Nottingham, the effect of the new British patent law, which provides that articles produced under domestic patents be manufactured in England, already is manifest in arrangements which are being made for the introduction of new factories. The representative of a British firm making a specialty of securing factories and factory sites for applicants is quoted to the effect that many applications have been received from foreigners, induced thereto by the provision of the new law. An important feature of the applications already made is that the manufacturers demand works much larger than are necessary to make the patented article, giving as the reason that they can not run works in England on the patents alone, and therefore intend to make other wares which have hitherto been imported ready-made. Consequently, the volume of new manufacturing business brought into the country is expected vastly to exceed what is directly attributable to the influence of the new law.

Spain's Census of Motor Cars.

A recent estimate places the total number of motor cars in present use in Spain at 3,000. They are distributed as follows: Madrid and district, 500; Barcelona and district, 600; Gipuzcoa, including San Sebastian, 300; Vizcaya, including Bilbao, 200; Palma, Balearic Islands, 300; Seville and district, 100; all other places, 1,000.

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"Caught in the Rain"

When you're caught in the rain without

WEED CHAINS

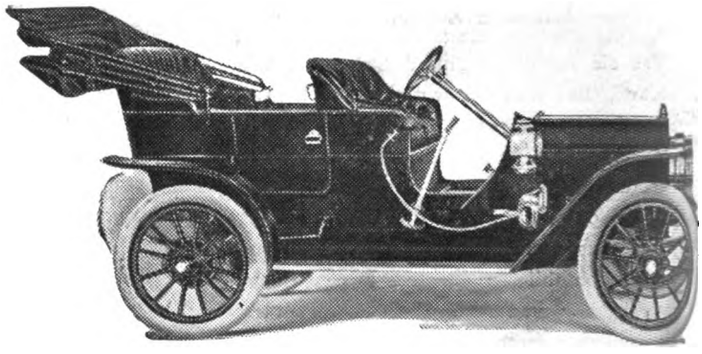
you are sure of a skid. Weed Chains are necessary equipment. Never leave your garage without them.

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OAKLAND



Model B Touring Car, price $1,250.00. Full equipment, including two gas lamps, two side oil lamps, one tail lamp, generators, horn, tools, jack, pump and batteries. Top, $75.00 extra. Runabout, $1,200.

¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

¶ The live agent will find in the Oakland a car that appeals to a large and intelligent class of purchasers and that will justify the fullest confidence.

¶ Correspondence invited.

OAKLAND MOTOR CAR CO., Pontiac, Mich.

J. B. ECCLESTON, Sales Manager, 53 Franklin St., Buffalo, N. Y.

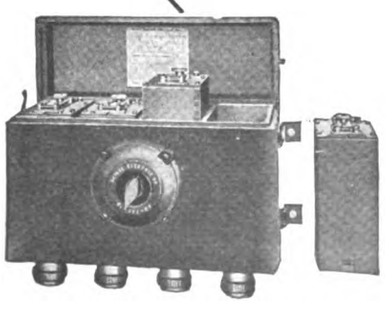
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The Week's Patents.

894,291. Vehicle Wheel Rim. Edwin C. Shaw, Akron, Ohio, assignor to B. F. Goodrich Company, Akron, Ohio, a Corporation of Ohio. Filed Feb. 20, 1907. Serial No. 358,460.

1. In a vehicle wheel rim the combination of a channel iron having a permanent tire flange mounted thereon, a transversely split ring carrying a second tire flange, downwardly extending lugs upon the terminals of said ring, a slot in said channel iron adapted to receive said lugs and means for securing said lugs within said slot, consisting of a bolt having a flaring head shaped to enter a recess in the split ring and a shaft adapted to pass through and to be secured beneath the channel iron.

894,292. Vehicle Wheel Rim. Edwin C. Shaw, Akron, Ohio, assignor to B. F. Goodrich Company, Akron, Ohio, a Corporation of Ohio. Filed Feb. 20, 1907. Serial No. 358,462.

1. In a vehicle wheel rim the combination of a channel iron having one tire flange permanently attached thereto, a second tire flange mounted upon a removable transversely split ring, a retaining flange upon said channel iron, downwardly extending lugs near the terminals of said split ring, and a key adapted to pass through perforations in said lugs, and to seat against the under surface of the channel iron.

894,293. Vehicle Wheel Rim. Edwin C. Shaw, Akron, Ohio, assignor to B. F. Goodrich Company, Akron, Ohio, a Corporation of Ohio. Filed Feb. 20, 1907. Serial No. 358,464.

1. A two-part rim for vehicle wheels comprising one member seated upon the wheel felly and provided with a retaining seat for the second member; said second member comprising a transversely split ring carrying a tire retaining flange; and means for pinning said second member to said first member, consisting of a bolt having a butterfly shaped head adapted to seat within a recess common to the terminals of the second member, and a shaft adapted to pass through said first member and to engage with a nut seating there-beneath.

894,327. Change-Speed Gear. John Johnston, Putney, London, and Harry W. Buddicom, Nannerch, near Mold, England. Filed May 9, 1905. Serial No. 259,622.

A change speed gear comprising a driving shaft, two sun bevel pinions, one loose on and one keyed to, the driving shaft, sun bevel wheels loosely mounted and having concave webs and sleeves integral with said webs, a sleeve integral with the loose sun pinion, planet pinions meshing with the sun wheels and pinions, radial pins for said planet pinions, a concave member keyed to the driven shaft and having bosses for supporting the outer ends of the pins, a sleeve integral with the inner ends of the latter, a light casing inclosing the gear wheels and pinions, and brake drums outside the casing and mounted on the sleeves of the sun wheels and of the loose sun pinion, said sleeves extending through said casing, substantially as hereinbefore set forth.

894,431. Shock Absorber for Vehicles. Edward A. Garvey and Christopher A. Garvey, St. Louis, Mo. Filed Sept. 23, 1907. Serial No. 394,136.

1. The combination, with a vehicle having a body frame, an axle, and a radial arm pivoted to said body frame and supported by said axle; of a saddle supported by said radial arm, a carrier supported by said arm, a pneumatic bolster mounted upon said carrier and a main spring connected with said radial arm and said saddle and yieldably supported by said bolster, substantially as set forth.

894,444. Controlling Device. Wellington P. Kidder, Boston, Mass. Filed May 18, 1903. Serial No. 157,525.

1. The combination of a pair of hand levers with an intermediate swing interlock, and connections whereby one of said levers is adapted to operate a brake and clutch and whereby the other of said levers is adapted to operate a change-gear mechanism.

894,473. Power-Changing Mechanism. Robert Symmonds, Jr., Kenosha, Wis., assignor to Thomas B. Jeffery, Kenosha, Wis. Filed Dec. 14, 1905. Serial No. 291,697.

1. In a power changing mechanism, the combination with a driving element, of a driven element, an eccentric rotated by the driving element, and means interposed between said eccentric and the driven element for rotating the latter in the direction of rotation of the driving element or in the opposite direction.

894,493. Pneumatic Cushion for Vehicles. Edward A. Garvey and Christopher A. Garvey, St. Louis, Mo. Filed Jan. 9, 1908. Serial No. 409,928.

1. A pneumatic cushion for vehicles having a cushion carrier, comprising a pair of cushion sections each having an open inner end, a main coupling having necks, means for securing the open inner ends of said cushion sections to the necks of said main coupling, and means for securing the main coupling to the cushion carrier.

894,526. Spring Wheel. Henry Neubert, Chicago, Ill. Filed April 27, 1907. Serial No. 370,579.

1. A spring wheel comprising a central structure including a hub and a felly, a plurality of semi-elliptical springs located between the felly and rim, guides secured to the rim and extending radially to the wheel and partly inclosing the springs and felly,

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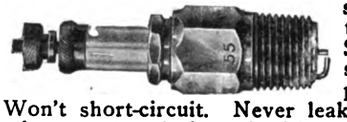
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15 cents per line of seven words, cash with order. In capitals, 25 cents per line.

WANTED—Position as advertising manager; have had years of experience in building catalogs, booklets, folders, etc.; also have a practical knowledge of printing values and all details in connection therewith. I hold similar position at the present time, but for good reasons desire a change. Address A. R. M., 1457 Wilson Ave., Chicago, Ill.

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CLEVELAND SPARK PLUG CO.
CLEVELAND, OHIO

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and blocks on the springs and movable in said guides.

894,586. Pneumatic Pump. Albert Brest, New Castle, Pa. Filed Oct. 19, 1907. Serial No. 398,186.

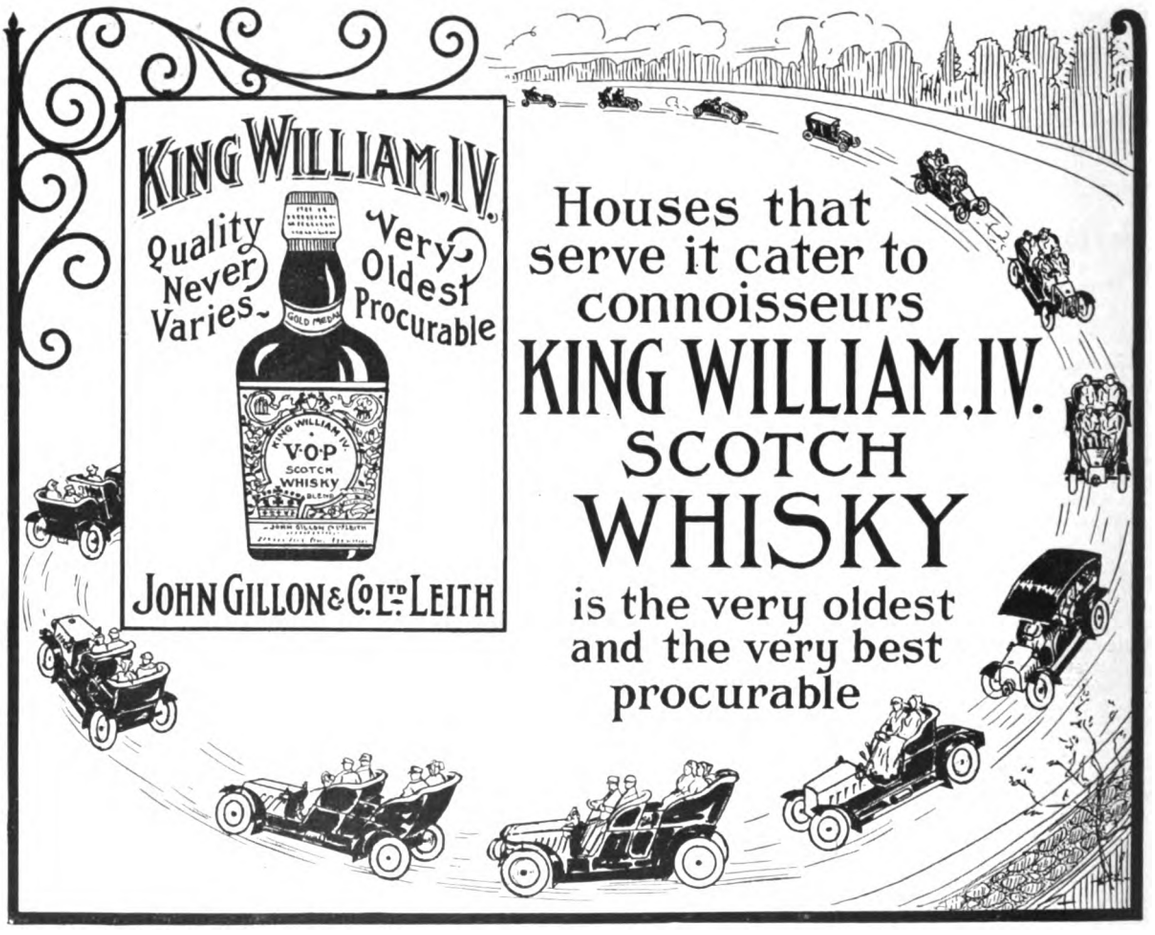
1. A pump attachment for pneumatic tires comprising a pump cylinder supported at one end on the wheel rim, a yoke sucured to the wheel hub centrally of the latter and to which the other end of the pump cylinder is connected, said yoke provided at its outer end with a bearing, a pipe communicating with said pump cylinder intermediate the ends thereof and having its outer end extended angularly and received in the bearing of said yoke, a frame fixed on the wheel hub adjacent one end thereof and provided near each end with a bearing, a shaft mounted in one of said bearings and carrying a crank, a piston within said pump cylinder to which said crank is connected, a piston arranged in the angularly extended portion of said pipe and having its rod extended through the other bearing of said frame, a clutch member rigidly fixed on the axle of said wheel, a second clutch member movably mounted on said axle and normally held out of engagement with the rigid clutch member of said piston rod, and a pinion on said shaft to engage with the movable clutch member when the latter is in engagement with the rigid clutch member whereby motion is imparted to the piston in said pump cylinder.

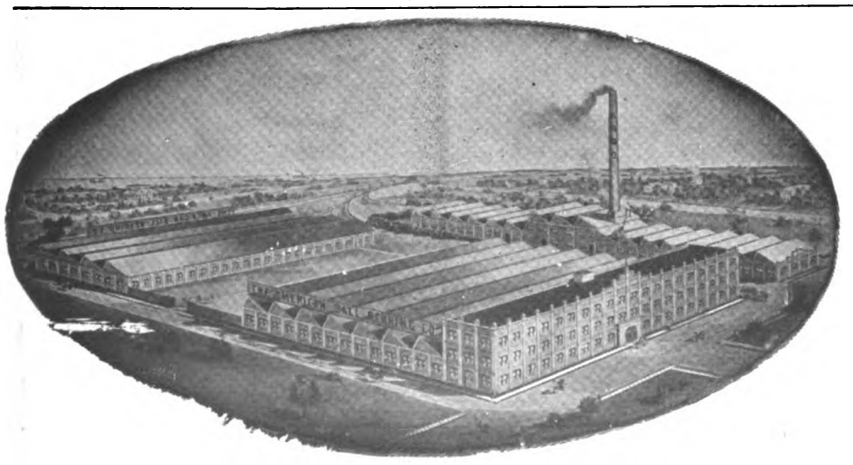
894,609. Wheel Specially Adapted to Receive an Auxiliary or Spare Rim. Thomas M. Davies, Llanelly, England. Filed Feb. 18, 1908. Serial No. 416,468.

1. In a wheel, the combination of a rim adapted to carry a pneumatic tire, and a laterally projecting flange fixed to such wheel and adapted to receive the clips carried by an auxiliary rim, substantially as set forth.

894,656. Carburetter for Internal Combustion Engines. John Johnston, Fulham, London, England, assignor of one-half to Harry William Buddicom, Penbedw, England. Filed June 3, 1907. Serial No. 376,948.

1. In a carburetter, a disc valve, a seating therefor, an air passage leading to the valve and oil holes leading to the face of the seating and adapted to be closed by the valve, said valve and seating having between them when the valve is open, a throat which first converges in the direction, substantially as described.





The output of complete Front and Rear Automobile Axles of this plant exceeds the capacity of all competition combined.

THE American Ball-Bearing Co.

L. S. & M. S. Ry. & Edgwater Park

CLEVELAND, OHIO, U.S.A.

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LIMOUSINES AND TOURING CARS

WHAT concerns you is not the size of the engine nor the horsepower the maker claims for it. You are only interested in the results—hill climbing—road speed—power in sand, etc.

We have said a lot at various times about getting a greater proportion of the engine horsepower delivered to the rear wheels of the Stevens-Duryea than any other car. There never was anything easier to satisfy yourself about—a bit of sandy road—a stop-watch—the Stevens-Duryea's time vs. the other car's time—the size of the Stevens-Duryea engine vs. the size of the other.

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Send for Stevens-Duryea literature.

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CHICOPEE FALLS, MASS.
Member of Association of Licensed Automobile Manufacturers.

LONG EXPERIENCE
SKILLED WORKMANSHIP
HIGHEST QUALITY OF MATERIAL

MAKE THE

WHITLOCK RADIATOR

THE BEST ON THE MARKET

Under All Conditions

THE WHITLOCK COIL PIPE CO.
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The Supremacy
OF
Standard Bearings

is emphasized by the continued victories of the

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which is equipped fully with

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Their axles are also our work.

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THREE speeds and reverse, selective types. The best of material and workmanship. Our experience in gear cutting and manufacturing Automobile Parts enables us to equal the best transmissions built. Let us figure on your requirements.

We also build a complete line of
AXLES, CLUTCHES
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AVOID ACCIDENTS
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which adds to the efficiency of the lamps, and keeps glare from blinding other users of the highways. Can be fitted to any existing lamp.

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PALMER & SINGER MFG. CO.

DIAMOND CHAINS
drive their cars more miles per dollar cost than any others
TRADE MARK
DIAMOND CHAIN & MFG CO.
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A SUPERB LINE OF CARS—
THE JACKSON
"No Sand Too Deep—No Hill Too Steep."
2-Cylinder and 4-Cylinder
Runabouts, Roadsters, Touring Cars,
15 H. P., 24 H. P., 35 H. P.
Prices $850, $1,250, $1,500, $2,000.
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Demountable rims are sold than all others combined. Write for information.
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"Marks of a Good Motor Car"

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Are the most economical. Do not deflate when punctured.
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Invaluable to the owner or prospective owner of a motor car. Practical and to the point. Send for prospectus to the
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Type C.
PENNSYLVANIA
"FIFTY"

We had the best car in America. We thought for a long while how to improve it and left it alone. You think that over.



Touring Car, Baby Tonneau or Roadster bodies, with double ignition, $3,000.

Pennsylvania Auto Motor Co.
BRYN MAWR, PENNSYLVANIA

A DUPLICATION, NOT AN IMITATION OF LEATHER.

AUTOFOID is a peculiar name. Try to remember it when next you are ordering material for tops, cushions, etc.

AMERICAN LEATHERETTE MFG. CO
Buffalo, New York.

Studdard-Dayton
ONE Quality for ALL Models
ONE Price for ALL Buyers
Write for 1909 Catalog.
THE DAYTON MOTOR CAR CO.,
Dayton, O.

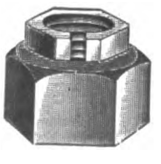
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SCHRADER
UNIVERSAL VALVES
TRADE MARK REGISTERED APRIL 30, 1895.
The Standard American Valves for Automobile, Bicycle & Vehicle tires
Manufactured by
A. SCHRADER'S SON, INC.
28-32 Rose St. New York, U.S.A.



The Ball Transmission FOR Automobiles & Motor Boats



NEW YORK GEAR WORKS.
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A Necessity On Automobiles—WHAT?
COLUMBIA LOCK NUTS

CANNOT shake loose. They add an important factor of safety and give a feeling of security. Columbia Lock Nuts are the best kind of accident insurance. Used by most makers of the best cars and by leading railroads, etc. Send us a two-cent stamp, size and thread of the bolt, and we will forward a Columbia Lock Nut for it.



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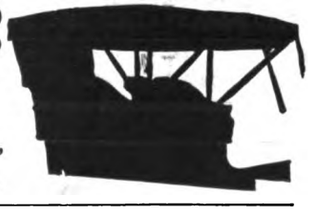
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SIDE-WIRE SOLID MOTOR TIRES
THE WORLD'S STANDARD
FIRESTONE TIRE & RUBBER CO., Akron, Ohio


Volt Ammeter $5.00, Ammeter only $3.50
How Are Your Batteries?
A CONNECTICUT VOLT AMMETER WILL TELL YOU
Guaranteed, and the price is right, send for catalogue and trade discounts.
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1908 Model D. 60 H. P.
New factory, Saginaw, Mich.
Complete catalogues now ready.
RAINIER MOTOR CAR COMPANY,
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One of the strongest features of Splitdorf Ignition is its unfailing reliability and efficiency.
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JUSTIFIES ITS NAME
THE ACME MOTOR CAR CO.
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Aluminum Bodies
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Steel Tires
Full of Air.
Tire expense cut in two.
Cannot Blow Out, Rim Cut or Puncture.
As Flexible as Rubber
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That part of a tire with a blowout or a rim cut in it will last longer than any other part if encircled by a few sections of steel.
Thousands in use.
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Why pay high prices
FOR ALUMINUM
Axle Covers, Engine Crank Cases, Transmission Cases.
Have these made of Pressed Steel
JUST AS LIGHT
Stronger. Much Less in Price.
Send Prints for Estimates.
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Gasoline and Electric—for Pleasure and Business
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The D. & B. Line Steamers leave Buffalo daily at 5:30 p. m., (eastern time) and Detroit week days at 5:00 p. m., Sundays at 4:00 p. m. (central time) reaching their destination the next morning. Direct connections with early morning trains. Lowest fares and superior service to all points west.
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THE OIL THAT GRAPHITIZES
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YOU NAME THE CAR WE'LL NAME THE GRADE
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WE WILL NOT
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THE HYDRAULIC PRESSED STEEL CO.,
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The PULLMAN
4-40 Roadster. Price, $3,000.
that made the run from Philadelphia to Savannah, Ga., March 5th to 18th, through mud up to the radiator, beating all previous records.
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"A Mechanical Masterpiece"
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Wico Adjustable Spark Plug

$1.00 Each
Guaranteed One Year
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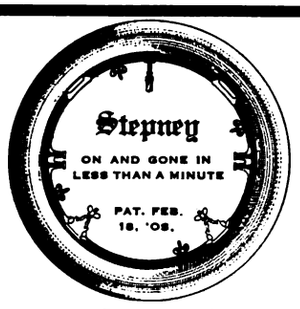
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NATIONAL MOTOR VEHICLE CO., Indianapolis, Ind.



The Only Cure for Tire Troubles
The Only Genuine Spare Wheel

GET A

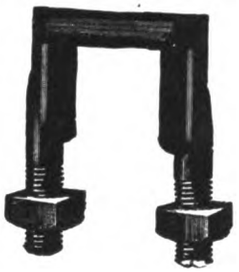
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AND KEEP GOING

Agencies in all the large cities.
Catalogue B tells all about it. Write NOW.

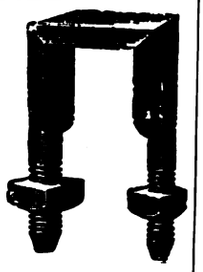
The Spare Motor Wheel of America, Ltd.
Main Office: 236 Michigan Ave., Chicago

FORGINGS for the AUTOMOBILE TRADE



Satisfaction Guaranteed

Thousands of our Spring Clips are now in use, having been supplied to the leading automobile manufacturers.



Have you secured our prices?

THE M. SEWARD SONS COMPANY, New Haven, Conn.

NEW ADJUSTABLE "S" PIPE



A very handy wrench for inconvenient places. Drop forged steel throughout, parts carefully hardened, and are interchangeable. Has patent nut locking device at side.

Write for new circular.

THE BILLINGS & SPENCER CO, Hartford, Conn.

ALUMALOYD SHEETS

For Automobile Bodies, Dashes, Guards, Bonnets, Battery Boxes, Drip Pans, Mufflers, Etc.

STRONG—DURABLE
SCALELESS—RUSTLESS
SMOOTH—PAINT ADHERES FIRMLY

A Metal That's A Time and Money Saver

THE STARK ROLLING MILL COMPANY, CANTON, OHIO

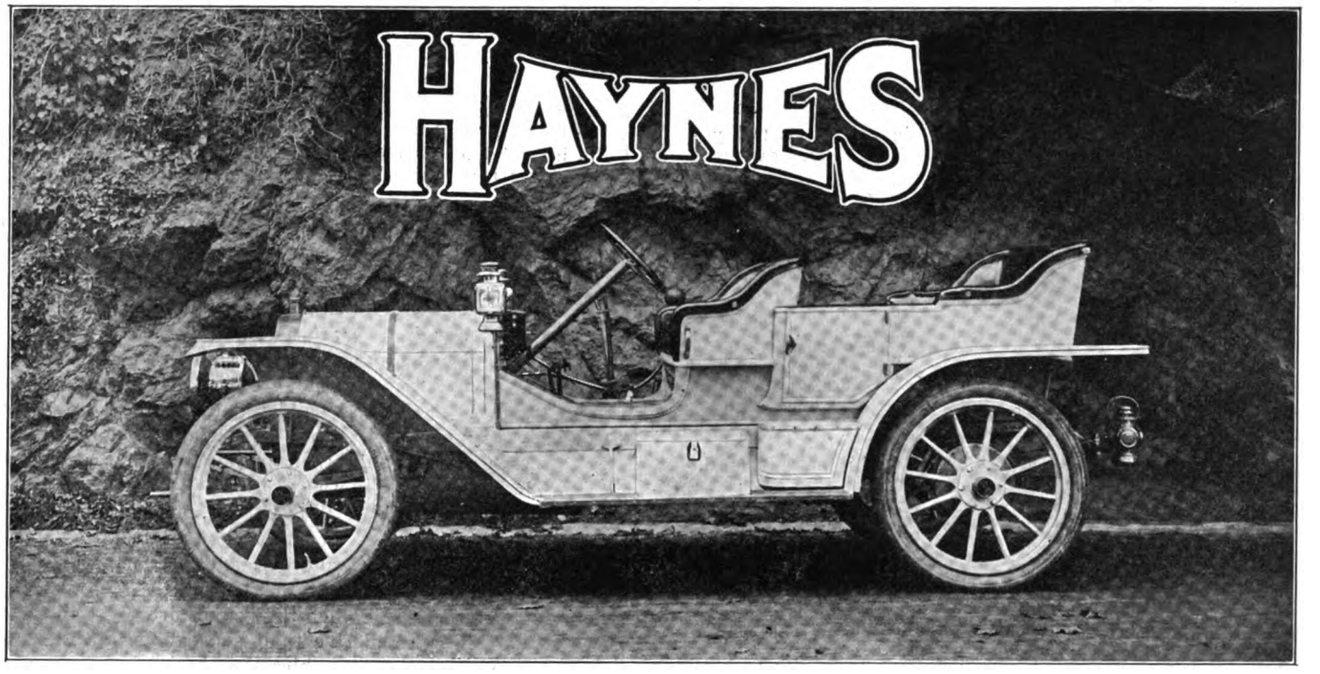
Model B—Brush Runabout

A CAR OF SIMPLE DESIGN MADE WELL
NOT A COMPLICATED DESIGN MADE CHEAPLY

Its records and the opinions of its users speak more loudly than self praise. Agencies for 1909 are being closed rapidly. Much good territory still open.

BRUSH RUNABOUT COMPANY, Detroit, Mich.

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1909 Model 45 H. P. Toy Tonneau, $3000

The Car They Copy

WHEN a car is only a copy of existing rivals, it is usually backed by inferior genius. The car to get is the one that is copied—the pioneer.

The Haynes is the oldest American car. Our model A was built in 1893. We gave to the world the large wheels, aluminum parts, side-entrance body, electric ignition and a host of minor features which are now universal.

The genius of Elwood Haynes who blazed the road of successful invention in the past is still with us, and the Haynes car is still ahead of them all in the superior development of various vital parts. The Haynes clutch, the ratchet gears, the roller pinion and sprocket direct drive, the two fly-wheels, the water-cooled brakes are all distinctive, and we expect that all automobiledom will copy them when the patents expire. But till then the Haynes is the car for the man who wants high power (45 H.P.) with direct drive, no vibration, ease of control and practically unending, unfailing serviceability.

AGENTS WANTED. If you have been agent for a maker that blew away in the late financial flurry, you will appreciate the opportunity to line up with a company that has survived the vicissitudes of fifteen years. Good territories this year for the right men.

SPECIFICATIONS OF THE HAYNES FOR 1909

Motor—4 cylinder, 4¼ by 5.
Water Cooled, with very large water jacket.
Drive—Shaft drive, with Haynes roller-pinion and sprocket at the rear axle, which minimizes friction and side thrust and eliminates noise entirely.
Clutch—Haynes patent contracting steel band upon bronze drum.
Carburetor—Latest type Schebler, water jacketed.
Lubrication—Gear driven McCord oiler.
Ignition—Bosch Magneto; also battery system with single coil and separate set of plugs.
Bearing—Roller bearings used throughout.
Tires—36 by 4 all around.
Transmission—Selective type, three speeds forward and reverse. Ratchet device makes gear stripping impossible.
Wheel base—112 inches. Tread—56 inches.
Body—Touring car for five or seven, or toy Tonneau, $3,000. Runabout or Hiker type, $2,900.
The Hiker type consists of two bucket seats with large gasoline tank on rear. Equipment includes Prest-O-Lite tank, baggage rack and tire holders.

HAYNES AUTOMOBILE CO., Kokomo, Indiana

Oldest Automobile Manufacturers in America. Member A. L. A. M.

NEW YORK, 1715 Broadway CHICAGO, 1702 Michigan Ave.

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The Truth About the Reduction in Tires

Some tire manufacturers, working in collusion, tell you that they are able to reduce the prices of their tires owing to a reduction in the cost of crude rubber.

It is a peculiar fact, however, that **other rubber goods** manufactured by these same firms **have not changed in price** for years.

Another of their arguments is "Increased Capacity"—and right here it may be interesting to note the prices of these concerns on September 1st., 1906, as compared with the present figures:

	Sept. 1, 1906.	Sept. 1. 1908.
28 x 3 in. tire complete	$34.32	$17.55
30 x 3½ in. tire complete	48.39	27.25
32 x 4 in. tire complete	60.00	38.80
32 x 4½ in. tire complete	73.35	49.20

Do you think increased capacity should make this difference? No!

Could the reduction be brought about through a reduction in the price of crude rubber? Yes. **But has rubber really been reduced?**

Crude Fine Up-River Para Rubber is at least **20 per cent. higher to-day than it has been any time for the past twelve months.** PECULIAR CONTRADICTION, isn't it? NOW FOR THE FACTS.

On August 12th, 1908, we refused to accept the proposition advanced by our competitors, to **muzzle free competition** in the tire trade by agreeing to adhere to a uniform discount—a scheme by which they attempted to recover from **dealers** and **consumers** and **losses entailed** by the conduct of their business in other quarters.

We were opposed to the Tire Pool; it was **we who fought** it and saw it "BUST" on September 1st, 1906, and we are still **opposed to every kind of tire combination.**

This short statement tells the TRUE story and the TRUE PURPOSE of the recent price reduction, which is to

Drive Out Competition

—Ajax competition we might add.

At the present prices of raw material neither the product of our competitors nor Ajax tires can be sold at the profit that is **legitimately** due the manufacturer. But in offering our own tires at correspondingly reduced prices we simply fight back with the **pocketbook argument.**

As far as our competitors are concerned, we warn the tire using public to

Look Out for the Cut In Quality

that usually accompanies the cut in price.

AJAX TIRES

ARE GUARANTEED FOR 5,000 MILES

A certificate signed by the President of our Company, and bearing the number of the tire, accompanies **every tire sold,** and on the back of the certificate is a table of adjustments by which every user of Ajax tires can compute the charge should a replacement be necessary.

There is no better recommendation for a tire than our 5,000 mile guarantee, because it puts the burden of proof upon us and we MAKE GOOD.

"See our exhibit at Grand Central Palace Show, opening in New York on New Years Eve."

Ajax-Grieb Rubber Co.

FACTORIES: TRENTON, NEW JERSEY

BRANCHES:

N. Y. City, 57th St. and Broadway.
Boston, 819a Boylston St.
Philadelphia, 316 No. Broad St.
Detroit, 743 Woodward Ave.
Chicago, 1418 Michigan Ave.
Kansas City, Mo., 1422 Grand Ave.
Denver, Colo., 1529 Cleveland Pl.
Seattle, 1102 Broadway.
San Francisco, 438 Market St.
Los Angeles, 1038 So. Main St.

Mongrel or Thoroughbred?

NOW IS THE TIME for you, Mr. Thoughtful Dealer, to decide what you will sell in 1909.

WILL IT BE A MONGREL? a car assembled from parts carried together from all over the country and hammered into shape as well as may be?

OR WILL YOU SELL THE THOROUGHBRED—a homogeneous mechanical masterpiece, every single part of which is the result of the same genius that devised the whole?

"ASTOUNDING," "MARVELOUS," "WONDERFUL," are the terms with which some assembled cars are now tagged, though they are astounding, marvelous and wonderful only to the assemblers, who like Rip Van Winkle, have been dozing in the growing woods of automobiledom and who now, bewildered by the progress that has been going on, seize upon time-tried and long-established practices and herald their adoption by the assemblers as brand-new discoveries.

LET'S REASON IT OUT: On the one hand you have the assembled car, with an engine bought from one manufacturer, a frame from another, and a transmission from a third, and so on down to the last rivet. The maker of the engine, the mill in which the frames are pressed, the transmission man, all derive their separate profits, leaving no other way to the assemblers to obtain their rewards than by skimping the quality of their "product."

AND THEY DO IT—THEY MUST! When you examine some of these astounding cars you will be truly astounded on finding that the four-cylinder engine is cast in one piece and has only two main bearings, whereas the Maxwell has four cylinders and five main bearings. You know well enough that making a motor with only two bearings is equal to leaving the engine to its own devices as far as alignment is concerned.

IT WILL BE A TOUGH JOB FOR THE DEALER to convince the purchaser who is wise that some four-cylinder engines of small dimensions will develop as high as 30 horsepower—because they can't.

MAXWELLS ARE A HOME-GROWN AMERICAN PRODUCT. The use of Maxwell features in Maxwell cars was neither a heaven-given inspiration nor the aping of foreign design, but the outcome of sound engineering sense.

WHEN 10,116 MAXWELL OWNERS testify to the excellence of their cars, all of which have been sold by Maxwell dealers, then the Maxwell proposition is one that you can't afford to pass by.

BEFORE HITCHING YOUR WAGON TO A STAR it will be wise for you to find out all about a dealership for Maxwells, the success of which is past and present, instead of lying in the dark and distant future that has swallowed so many wonderful cars that have been marvelous chiefly in their complete and rapid disappearance from the field of legitimate competition.

Benj Briscoe
President.

MAXWELL-BRISCOE MOTOR CO.

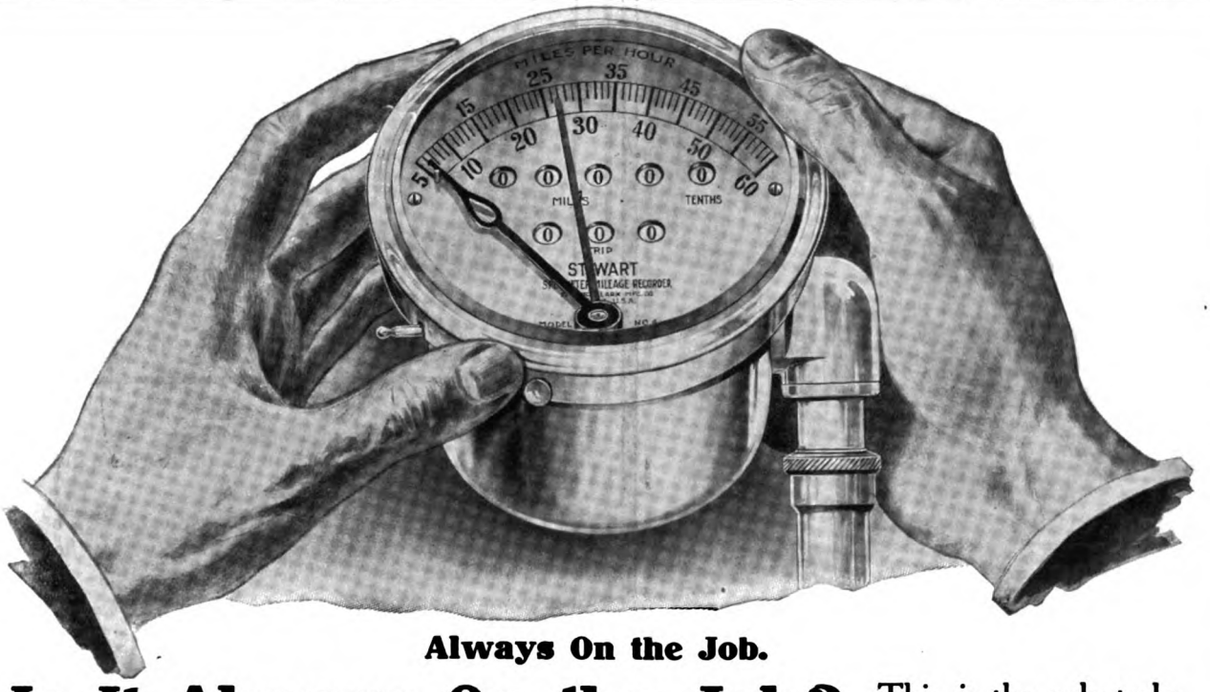
Standard Manufacturers A. M. C. M. A.

P. O. Box 106, Tarrytown, N. Y.

Factories: TARRYTOWN, N. Y. NEWCASTLE, IND. PAWTUCKET, R. I.

Address communications to Tarrytown, N. Y.

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Always On the Job.

Is It Always On the Job?

This is the only truly satisfactory test of a reliable speedometer. **Stewart Speedometers** are famous for being **"always on the job."** You can put them on your car and forget them, so far as attention is concerned, as **THEY WILL OUTWEAR THE CAR.**

One of our Cleveland customers writes as follows:

I have had one of your Speedometers on my car for the past two years AND FIND IT PERFECT. Before purchasing a Stewart I had a . . . . . indicator which went to the bad. Then I tried a . . . . . It was no time before the flexible shaft went to the bad. They put on another shaft which did no better.

I Then Got a Stewart

The Odometer today shows 35,462 miles and I have never touched it

WHEN YOU EQUIP YOUR CAR WITH A STEWART SPEEDOMETER YOU CAN FORGET YOUR SPEEDOMETER TROUBLES. "They are always on the job." That's why we can GUARANTEE them for five years. All models equipped with the famous Stewart flexible shaft and patented swivel joint, at $40, $25 and $15. Send for catalog.

Stewart & Clark Mfg. Co. **509 Diversey Boul., Chicago, U.S.A.**

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THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

$ 2 0 0 0

Touring Car **Roadster**
Limousine **Landaulet**

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.

ROCHESTER, N. Y.

Member A. L. A. M.

Matheson

1909

Prices Reduced $1,000

And the Reasons Why

Heretofore the Matheson Car has been considered the highest priced as well as the highest grade American car on the market.

Millions of dollars worth of these cars have been delivered to customers who could afford to pay the higher price for the best.

Many other purchasers have been persuaded that some of the lower priced cars have been "just as good." Matheson owners who have used other makes of cars have answered that question satisfactorily. Send for their letters, which we have done up in a book.

In order, therefore, to still maintain the unequalled quality of the Matheson Car and at the same time give customers this magnificent car at the price of the cheaper cars, the makers have figured that by doubling the factory output and selling at a much closer margin of profit, the price of the Matheson Car equipped with Touring, Landaulet or Limousine bodies, could be cut $1,000, and the same chassis, equipped with Roadster or Tourabout bodies, cut $650.

Accordingly, the Company's working capital has been increased by $350,000, and after October 11, 1908, the purchaser can buy a genuine Matheson Car, the very finest of all motor cars of either European or American make, at the makers' former prices to the agent or dealer; namely:

	New Price	Former Price
50 H. P. 1909 Touring Car	$4,500	$5,500
50 H. P. 1909 Roadster	4,350	5,000
50 H. P. 1909 Tourabout	4,350	5,000
50 H. P. 1909 Limousine	5,500	6,500
50 H. P. 1909 Landaulet	5,500	6,500

VICTORIES

The great string of Matheson victories in the important speed, hill climbing and endurance contests of the past seasons, in competition with the greatest cars of Europe and America, can leave no room for doubt that the Matheson car has no peer on any market to-day.

GUARANTY

Every Matheson is guaranteed for 365 days. (Notice that most other cars are guaranteed for 60 to 90 days only.)

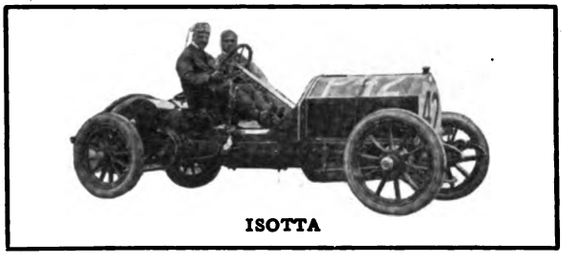
MATHESON AUTOMOBILE COMPANY

Main Sales Office, 1886-1888 Broadway, New York City

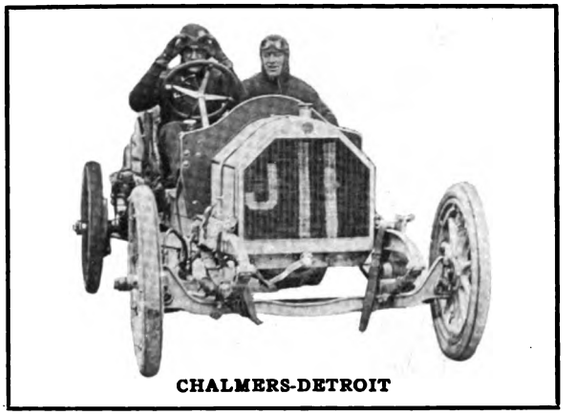
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Auto-Meter Wins Again

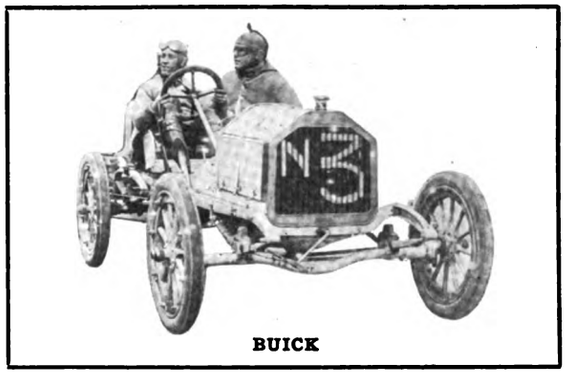
Once More Shows its Right to "First Place." In the Motor Park Way Sweepstakes the Auto-Meter assisted these winners in their respective classes.



ISOTTA



CHALMERS-DETROIT



BUICK



ALLEN-KINGSTON

Nassau Sweepstakes—Buick. Driven by Hugh Easter.

Jericho Sweepstakes—Chalmers-Detroit. Driven by W. R. Burns.

Motor Parkway Sweepstakes—Isotta. Driven by Herbert Lytle.

First; Meadow Brook Sweepstakes—Allen Kington. Driven by H. Hughes.

Second; Meadow Brook Sweepstakes—Rainier. Driven by L. A. Disbrow.

NOTE WHAT MR. DISBROW SAYS:

"I want to express my sincere appreciation of the wonderful accuracy and reliability of the Warner Auto-Meter, with which my Rainier car M 32, an entrant in the recent Meadowbrook Sweepstakes, was equipped. The car finished second, two minutes behind the winner, the distance, 211 miles over the Vanderbilt Cup Course, averaging 52½ miles per hour.

"I am enclosing the time by laps, and I wish you to note that the variations that for the nine laps is hardly a variation of one minute between them. Such consistent running would have been almost impossible without the assistance of your instrument. Its accuracy was simply wonderful, and I can assure you that the next race I drive my car will certainly be equipped with a Warner, as I consider it the most reliable and accurate instrument manufactured.

"Wishing you all the success you most certainly deserve, I am, sincerely yours,

"(Signed) LOUIS A. DISBROW."

PROOF OF AUTO-METERS SUPREMACY:

The man behind the wheel is the man who knows—take his word for it!

Think of the accuracy of the Auto-Meter in time for each lap—hardly a variation of a minute between them.

For reliability and accuracy the Auto-Meter has no rival; its record is never disputed now—the standard time and speed guage by which others are judged.



It is known throughout our motordom because absolutely dependable. The best cars everywhere are equipped with Auto-Meters because the Auto-Meter record is infallible. Not "nearly"; no guess work, but to the fraction of a minute or the fraction of a mile it is exact.

Write for more details and arrange for a trial of the Auto-Meter.

WARNER INSTRUMENT CO.

FACTORY AND MAIN OFFICE

296 Wheeler Avenue - BELOIT, WIS.

PHILADELPHIA—Cor. Broad and Race. LOS ANGELES—1124 S. Main St. CLEVELAND—2062 Euclid Ave. BUFFALO—722Main St.
SAN FRANCISCO—550 Golden Gate Ave. NEW YORK—1902 Broadway. PITTSBURG—3432 Forbes St. ST. LOUIS—3923 Olive St.
INDIANAPOLIS—330½ N. Illinois St. CHICAGO—1305 Michigan Ave. BOSTON—925 Boylston St. DETROIT—239 Jefferson Ave.

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DOES THE PUBLIC KNOW?

A Frank Talk Between Two in the Trade

A COMPETITOR SAID TO US the other day—he's one of the biggest manufacturers in the business and feels keenly the force of E-M-F. "30" success—"It's simply marvelous that you fellows can sell Blue Sky—'a car on paper'—as you do! Why, it's incredible—or would be if I didn't know from my own travels and observations that it's a fact.

"THE E-M-F. '30' IS THE RAGE EVERYWHERE—the buying public has simply gone foolish over it. In a dozen cities it is already at a premium—and not a dealer has a demonstrator yet, nor will have for ten days. We find it almost impossible to sell our stuff—those who havn't ordered E-M-F. Cars insist on waiting till they see it!"

THIS WAS A CANDID STATEMENT by one man in the trade to another. So we enlightened him—not too gently, perhaps, but frankly—telling him facts he knew in his heart to be incontrovertible. "You know and we know the E-M-F. '30' is the best value in an automobile the world has yet produced—that's the real reason."

"BUT OUR CAR HAS A REPUTATION," he said. "For what?" we asked. He didn't reply—for this was a candid conversation between two men in the trade. So we continued: "You tried to sell the same car last season for $2,000—and couldn't. This year you cut the price to $1,400 and sold a few—then the E-M-F. '30' was announced. The worst you can say about your this year's model is that it is like its predecessor."

"BUT THE PUBLIC DOESN'T KNOW what you and I in the trade know," he protested. "That's just where you miss the mark," we said; "the public—the automobile buying public—does know. They know the reputation of the men behind the E-M-F. Car, and the more they know of that the more eager they are for the car." Does not the public know—

SAY THAT HERRESHOFF WILL DESIGN A YACHT—the world will wager ten to one it will win the Cup. Say that Belasco will write a play—the ticket speculators will get busy. Say that Kipling will write a poem—the output of the print-shop will be contracted for before the first stanza is penned. The public does know!

SAY THAT "WILL" KELLY WILL DESIGN A MOTOR—the Automobile world will wager it will develop more power than any other combination of cast iron and aluminum any other engineer can design—and Kelly designed the E-M-F. "30." "But Kelly hasn't always—" "No; Kelly hasn't always had a Flanders to complete his work"—that's the answer.

SAY THAT FLANDERS WILL MANUFACTURE A CAR from Kelly's designs—every other manufacturer will brace himself for the contest of his life—they know their master.

SAY THAT EVERITT WILL FASHION THE GOWN—make the body—for Kelly's chassis; that's equivalent to saying the coach-work, the outward appearance, will be in keeping with the mechanical excellence of the car.

SAY THAT METZGER WILL MARKET THE OUTPUT—that guarantees every car will "stay sold"—if the Golden Rule in practice stands for anything.

THE PUBLIC DOES KNOW. That's a fact so firmly believed by the men who make the E-M-F. "30" car, every detail of design, every piece of metal that enters into the construction; every plank in the sales policy; is designed to withstand the bright light of day—the closest scrutiny of judicious buyers—the sharpest probes of envious rivals.

DO WE SELL BLUE SKY?—then did the Cunard Steamship Co. purchase a large chunk of that same commodity when, a few years ago, it contracted to pay fourteen or fifteen million dollars for two steamships of which not a trace was yet on paper—of which the only tangible thing was the reputation, the experience, the organization and the facilities—not to say mechanical and commercial integrity—of the men who contracted to deliver the goods.

A FELLOW BY THE NAME OF FROUDE—with the assistance of some other engineers and draughtsmen such as Kelly has—made the drawings and specifications. He didn't show the Cunard Company a blue print—didn't even agree to give the directors a demonstration. He said the two boats—which, by the way, were to be made in two separate yards by two companies, one at Clydesbank, in Scotland, the other at Wallsend-on-Tyne—would be bigger; carry more passengers more comfortably; and cross the Atlantic quicker than any other boats ever built. And the Cunard Company bit.

FROUDE TOLD THE CUNARD COMPANY that the empty hulls would draw 21 feet, 6 inches of water (figures may not be exact, but that's a detail). With engines in they'd draw 29 feet 4½ inches; and with maximum freight and passenger load, 37 feet 6 inches. He gave them the other specifications and told them to 'go ahead with the catalog.'

FROUDE BUILT THE BOATS; he painted them while on the ways; and he divided the colors, the blue and the red, at a point where he said the water-line ought to be. And lo! when they slipped from the ways and settled in the water, the blue of the boats just melted into the blue of the ocean at the point where Froude had said. Wonderful? —not at all—just knowing.

DID THE CUNARD COMPANY DOUBT at first that Froude and his associates would make good? Here's what they did:—called in the advertising manager and told him that three years from next September seventh a boat by name Lusitania would sail from Southampton for New York and on November sixteenth following another, Mauritania, would sail—and he'd better be getting busy on a new time-table.

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THE REST IS HISTORY; the two boats did sail—they did break all records; and to show you the Public does know, every state-room was booked months in advance by live ones who wanted to be in at the record making—same kind of people who have bought more than half the output of E-M-F. "30" Cars before the first one was shipped.

NO! THIS IS NOT A STEAMSHIP AD—it's an E-M-F. "30" Ad. We just want to tell you that automobile designing and manufacturing by men such as those who have agreed to deliver E-M-F. cars is just as much a science—is just as devoid of elements of guess and chance—as is steamship building from Froude's designs, by the big yards of England and Scotland.

THE ENTIRE 1909 OUTPUT OF E-M-F. "30's" IS SOLD—every car alloted to our various distributing agents, sub-dealers, and the Studebaker Automobile Company.

STUDEBAKERS BOUGHT 6,000 CARS—and the deal was closed before the drawings were complete. The Studebaker Company thereby backed the reputation of our own organization with its splendid reputation.

BUT WE ARE NOT HALF SO PROUD of the fact that 12,000 cars have been contracted for by dealers as we are of that other more startling fact that thousands of cars—fully half the allotment of every dealer—have been sold to individual users—$100 cash deposit paid and delivery date fixed for each car.

SAN FRANCISCO HAS SOLD 835 CARS—and the latest report is several days old. A man who has an order in there for an E-M-F. "30" Car, with delivery date any time in March can readily sell his place in line for $100. January deliveries are worth $200; and offers of $300 for December options go a'begging at the price.

PHILADELPHIA IS CALLED A CONSERVATIVE TOWN. It is conservative—it's the best E-M-F. town on the map. Foss-Hughes Company have sold over 125 of their allotment of 250 cars and are adding to the number at the rate of five a day.

BLASE BROADWAY—BROADWAY THE WISE—has simply gone into ecstacies over the E-M-F. "30." Herman Koehler, who has sold more automobiles in the last five years than any other retail dealer in the world, says he never saw the like before. Man came in the other day and said, "But I want to get one at once—next week anyhow." Koehler smiled; "just down the street a block—another place in the second block—you can get all you want. They have 'em in stock there—likely to keep them, too." Man tried to push his way out thru the crowd—couldn't.. Then it occurred to him why the crowd was there, and he gave Koehler an order for "earliest delivery you can make."

GITHENS BROTHERS OF CHICAGO—most conservative dealers on the Row they say—had sold 118 cars up to last Wednesday—rate they were going then Chicago will have overtaken Philadelphia by now. Walter Githens writes, "If our demonstrator doesn't arrive November 15th as scheduled we won't need it—we'll be sold out."

BOSTON—STUDEBAKER BRANCH—REPORTS: "We sell an E-M-F. "30" every hour on the average. That's going some. Boston won't need more than an eight-hour day to dispose of its allotment in short order at that rate. But Boston is naturally an E-M-F. town—always was strong on pedigrees, and down there they call the E-M-F "30" the Blue Blooded Car."

MINNEAPOLIS BOUGHT 400 with an option on 100 more "till New York Show Time." Sold out in 60 days. Took up the option a month ago and has sent three emissaries to Detroit the last week in efforts to persuade us Minneapolis has been slighted—ought to have 1,000; willing to compromise on 500.

WE MIGHT NAME 500 DEALERS who are handling the E-M-F. "30"—it would be the same story. Have to look at the postmark to see which one is asking for more—letters all read as if dictated by the same person:—"Over half our allotment sold already and no demonstrator—what will we do when it comes; can't we have just a few more?"

PORTLAND, MAINE—AND PORTLAND, OREGON—the same story. Atlanta—and Albany. Buffalo, Empire State—and Boone in the Corn Belt—E-M-F. "30" has the call—all others waiting till we have sold out." San Antonio—and Syracuse—ditto. Xenia and Youngstown and Zanesville all asking us to make 12,000 cars spread over a 25,000-car demand.

ARE WE SELLING BLUE SKY?—If we are, then we're selling it with the best guarantee that ever went with an automobile—a guarantee of entire satisfaction or your money back when you see the car—and a guarantee of fair, liberal, generous treatment afterward.

THE ONLY MAN WHO TAKES A CHANCE is the man who doesn't get a place in the line-up near the front—an option on early delivery. He can get out any time—get a premium for his position if he is willing to accept a later delivery. And he can get any one of the several competing makes on the minute—they have them on the floor now and most of 'em will stay there. The public does know—and it knows no other organization can compete with this one—none can deliver a car of this quality at anywhere near the price of the E-M-F. "30."

THE LUSITANIA WILL SAIL ON TIME—and every E-M-F. "30" will be delivered according to schedule—the only thing that can delay your car will be that you let too many get ahead of you in the line. Want a specification sheet and an order blank? We'll mail them if you ask. It'll be a satisfaction to say you were on board when the world's record was broken.

EVERITT-METZGER-FLANDERS CO.,
Detroit, Mich.

E-M-F. "30" **WITH MAGNETO, FIVE LAMPS AND GENERATOR** **$1,250**

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A CHALLENGE RACE~WON ON TIMKEN BEARINGS



AND FRONT AND REAR AXLES

These photographs show two examples of road conditions encountered by the York Motor Car Co.'s "Pullman" during its challenge race from Philadelphia to Savannah under the auspices of the Quaker City Motor Club. They say:

"The cars left Philadelphia March 5th, and covered a distance of 1,400 miles over such roads as photographs show you and which took them 14 days. In some places we could make only 10 miles a day. DURING ALL THIS TRIP WE NEVER RE-PLACED A BEARING OR HAD ANY TROUBLE WHATEVER WITH THE DRIVE SHAFTS. This car is still running and has possibly covered 10,000 to 12,000 miles. After the car was driven back to the factory without any work on it whatever, it made a trip from York to Philadelphia and New York and is still running in Newark, N. J. We were awarded the race, having covered the full course as laid out by the Q. C. M. C. WE CANNOT SAY TOO MUCH FOR THE TIMKEN ROLLER BEARING AXLE CO.'S PARTS."

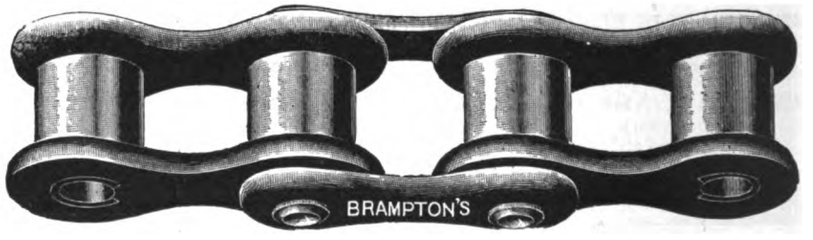
A Statement of Fact—Not Advertising Buncombe.

Every Manufacturer, Dealer and Owner should have our illustrated books and other information on Auto Friction Bearings, for every movable part, Power Axles, Brakes, etc. Free on request.

THE TIMKEN ROLLER BEARING AXLE CO. Factory and Main Office **Canton, Ohio**

New York Office, 10 East 31st Street. **Chicago Office, 429 Wabash Ave.**

THE BRAMPTON MOTOR CHAIN



All side plates on both sides of the Brampton Chain are stamped "BRAMPTON."

LARGE SALES and SMALL PROFIT with thousands of satisfied customers is our best advertisement. THE BRAMPTON CHAIN is made of self-hardening Steel; the strongest Chain in the World. All parts polished; fits sprockets (that are properly cut) without friction.

Some of the other chains may look like THE CELEBRATED BRAMPTON CHAIN because some of the other chain makers began to copy the design and shape of the BRAMPTON CHAIN links in 1904. They have improved somewhat on their copied design from time to time until these chains now look more like the BRAMPTON CHAIN than ever before. These chains somewhat resemble the BRAMPTON in appearance, but the manufacturers of such chains have been unable to copy the material —self-hardening steel.

NO CHANGE IN THE BRAMPTON

There has been no change in the design, construction, material or finish of the BRAMPTON MOTOR CHAIN in the past ten years.—"ENUF SED."

PRICE

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the BRAMPTON FILLS THE BILL, and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size. We have in stock chains to fit all American and foreign cars.

YOUR 1909 CAR

You can have the new car that you order fitted with the CELEBRATED BRAMPTON CHAIN if you order it that way. No extra cost to either you or the manufacturer. All standard sizes in stock to fit American and Foreign Cars at the same price as the other chains.

SPECIAL CHAINS TO FIT THE INDIAN MOTORCYCLE.
Agents wanted in unoccupied territory. Catalog on request.

CHAS. E. MILLER, Manufacturer, Jobber, Exporter and Importer Main Office: 97-99-101 Reade Street, **New York**

BRANCHES: 54th St. and 8th Ave., New York. 202-204 Columbus Ave., Boston, Mass. 318-320 N. Broad St., Philadelphia, Pa. 227½-229 Jefferson Ave., Detroit. 1829 Euclid Ave., Cleveland, O. 1392 Bedford Ave., Brooklyn, N. Y. 824 Main St., Buffalo.

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Locomobile

Establishes American Supremacy in Automobiles

Wins the Vanderbilt Cup

The Greatest International Road Race ever held in this country and the supreme test of reliability and endurance.

258 MILES IN 240 MINUTES

OVER A SLIPPERY COURSE

Locomobile No. 16 was first; Locomobile No. 1 would have finished in third place, but the race was called off after two cars had finished. At this unexpected announcement touring cars came out on the course, and as No. 1 Locomobile neared the Grand Stand on its last lap it came in collision with a car 25 YARDS FROM THE TAPE. The Cup Commission had notified the drivers before the race that five cars would be allowed to finish. Out of 19 entries, of which 7 were foreign cars, LOCOMOBILE RAN FIRST AND THIRD. Two cars placed. Something heretofore unknown in any contest for the Vanderbilt Cup. No trouble of any sort was experienced on either of the two cars except from the tires, which were of the anti-skid variety, necessitated by the slippery course.

Made the Fastest Lap

The Locomobile No. 16, driven by Robertson, made the fastest lap—23 45-100 miles—in 20 minutes and 17 seconds. It also ran 5 other laps in less than 21 minutes each. ITS AVERAGE SPEED DURING THE RACE WAS 64 3-10 MILES PER HOUR, INCLUDING ALL STOPS. THIS SMASHES ALL RECORDS FOR THE VANDERBILT CUP, no previous average reaching 62 miles per hour.

Both cars are of 90 h. p. and are substantially the same as our regular stock product, the difference being one of dimensions, so that the victory stands as a splendid triumph for Locomobile design and construction—a triumph for the Locomobile low-tension ignition system, the Locomobile magneto, the 4-cylinder motor, the selective transmission system and other features of the car. The material used in our regular product is everywhere as good and in some places even better than that used in the cars entered in the race AND WHICH WERE BUILT IN 1906.

The consistent performance of the two Vanderbilt Cup Locomobiles is but a repetition of the performance of the two entries in the great Founders' Week Stock Car Race in Philadelphia, October 10. This great race was won by a 40 h. p., 4-cylinder Locomobile, regular in every way.

THE LOCOMOBILE CO. OF AMERICA

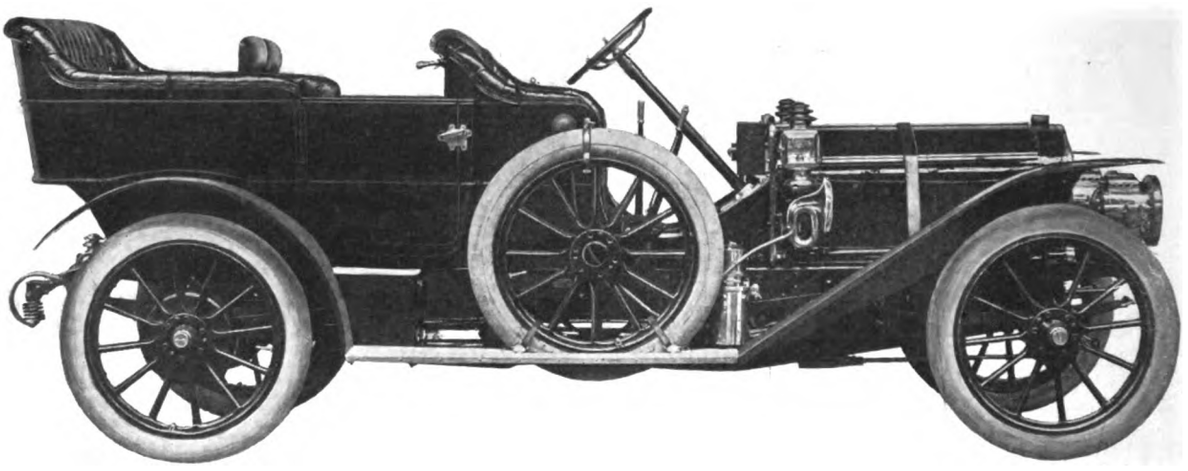
BRIDGEPORT, CONN.

MEMBER OF ASSOCIATION LICENSED AUTOMOBILE MANUFACTURERS

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THE Rambler

SPARE WHEEL



Rambler 1909 Model Forty-Five With Spare Wheel Attached.

The Tire Problem Solved

The Rambler spare wheel for Ramblers only. An inflated tire attached to the rim ready for any tire difficulty; an extra wheel available in case of need.

Provision for instant change of wheel and tire; only six nuts to remove.

Wheel with inflated tire can be changed in three minutes.

The wheel, an inflated tire, brackets and straps and special tools to facilitate the exchange of wheels: for Model Forty-four, $74.00; for Model Forty-five, $85.35.

THE CAR OF STEADY SERVICE

THOMAS B. JEFFERY & COMPANY

Main Office and Factory, Kenosha, Wisconsin.

Branches and Distributing Agencies: Chicago Milwaukee Boston New York San Francisco

Representatives in all leading cities.

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, November 5, 1908. No. 6

MERGER RUMORS BRING DENIALS

Story of Combine, Backed by Morgan, Fails of Verification—Buick to Make Chassis for Olds.

Persistent but conflicting rumors of mergers involving the names of the Buick, Maxwell-Briscoe, Oldsmobile, Everitt-Metzger-Flanders, Cartercar and Pope-Toledo interests had a further stirring up last week by the publication of dispatches from Detroit, Mich., announcing the practical completion of an automobile combine by J. Pierpont Morgan, in which all the concerns mentioned were to be included. With much circumstantial account, the name of the consolidation was given as the General Motors Co., and its capitalization of $12,000,000.

Previous announcement of the proposed formation of the International Motor Co., to include the Maxwell-Briscoe, Buick and other interests and which was to have the support of Morgan's sons-in-law, while having no subsequent confirmation, prepared the way for the later rumor.

Negotiations looking to an arrangement between the Maxwell-Briscoe and the Buick companies are known to have been in progress for some little time, but a combination between them is not looked for at present. Whatever merger plans the Buick company may entertain just now appear to be in connection with the Olds Motor Works, at Lansing, Mich. It is known that for the coming year the relations between the companies will be so close as to include the making of the chassis for the Olds $1,200 model at the Buick factory. The presence of several mysterious visitors at the Olds plant, and the fact that the company has taken this time to close its books and take inventory instead of in December, as usual, has lent support to the idea that a sale or consolidation is likely, but two weeks ago F. L. Smith the president of the company, upon being consulted over the long distance phone by the Motor World, asserted that there was nothing for him to deny concerning a consolidation because nothing of the sort was in prospect.

In an endeavor to learn at first hand from the parties interested, their relations to the rumored merger, and to put each of them on record, the Motor World yesterday sent to each the following telegram:

"Any truth in Detroit news dispatches concerning your connection with General Motors or International Motor mergers? Please wire reply quick."

Replies had been received from three out of the five companies, at the time this issue went to press, as follows:

The Maxwell-Briscoe Motor Co., of Tarrytown, N. Y., replied: "No information here of any merger."

The Cartercar Co., of Pontiac, Mich., wired: "No. Reports without foundation."

The Everitt-Metzger-Flanders Co., of Detroit, Mich., answered: "Please say Everitt-Metzger-Flanders Co. has no connection whatever with General Motors or International Motor mergers."

Only the Olds Motor Works and the Buick Motor Co. failed to avail themselves of the opportunity to affirm or deny delations or prospects.

To Sell Hagerstown and Elyria Plants.

Offers have been made to the receivers of the Pope Mfg. Co., of Hartford, Conn., for two of the company's plants. For the Hagerstown (Md.) factory a bid satisfactory to the receivers has been tendered by the Montrose Metal Casket Works, of Philadelphia, and a court order will be asked permitting its acceptance. Negotiations are also in progress for the sale of the Garford saddle plant at Elyria, O.

Kesser is Hartford Sales Manager.

Franklin Kesser, formerly of the Philadelphia branch of the Hartford Rubber Works Co., has been appointed sales manager at the Hartford office. While having general direction of the sales campaign, his work will be under the direct supervision of the officers of the company.

RAINIER IN RECEIVER'S HANDS

Saginaw Factory Attached by Sheriff—Bankruptcy Proceedings Filed by Three of the Creditors.

Following a number of suits brought by creditors, a petition in bankruptcy was filed on Wednesday against the Rainier Motor Car Co., with salesrooms at Broadway and Fifty-sixth street, New York City, and factory at Saginaw, Mich. The liabilities are estimated at $200,000, of which $50,000 is secured. The factory at Saginaw has been attached by the sheriff, on a claim of the Auto Crank Shaft Co., and business there is entirely suspended.

The petitioning creditors are Pembroke C. Chrysler, $468 for commissions; J. J. Higgins, $549 for commissions; and the Hartford Suspension Co., $262 for merchandise, represented by Griggs, Baldwin & Pierce, attorneys. Judge Hough, of the United States District Court, has appointed Jesse Watson receiver.

John T. Rainier, president and treasurer of the company, previous to forming the present organization, was particularly successful in marketing a "Rainier" model made to his order by the Garford Co., of Elyria, O., the car enjoying great popularity in New York City at a very profitable retail price. Last year, however, the new company was formed to manufacture Rainier cars. It was incorporated March 7, 1907, under New York laws, with $1,000,000 capital, of which $800,000 is common stock and $200,000 preferred. Accepting a bonus and factory site offer from Saginaw, Mich., the company commenced making its own cars there.

George Carlton Comstock, attorney for the company, asserts that the concern is solvent, is only temporarily embarrassed and expects to come out all right if given a little time. He declares the normal assets to be larger than the liabilities and that the real assets are at least $200,000.

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In the Retail World.

A. Koyen and William Burtz have rented the Rees concrete building on Fifth street, Tremont, Neb., where a garage and a bicycle repair shop will be conducted separately. Koyen will manage the automobile department.

The Belmore, MacDougall, Moores Co., of Portland, Ore., has moved from Sixteenth and Alder streets to the corner of Seventeenth and Alder. The new garage has three floors and is much larger than the old one.

The ownership of the Central Garage, of Buffalo, N. Y., has changed. The establishment, which is located at 22-24 West Utica street and which was formerly known as the Utica Auto Station, has been bought by J. G. Lewis, and D. L. Walker.

The Jaynes Auto Supply Co., of Buffalo, N. Y., has expanded to "international" importance. W. C. Jaynes, the proprietor, has opened company branches at 19 Alice street, Toronto, Ontario, and 561 Main street, East, Rochester, N. Y.

Charles E. Miller, 1829 Euclid avenue, Cleveland, O., has been appointed a distributor for Continental tires. He will supply both the tires and demountable rims of the Continental Caoutchouc Co., of New York, at the prices obtainable at the home office.

The Consumers Auto Supply Co., Seventh avenue and Smithfield street, Pitsburg, Pa., has taken the agency for Empire tires, made by the Empire Automobile Tire Co., of Trenton, N. J. The arrangement is expected greatly to increase the demand for Empires in western Pennsylvania.

Chase & Ludington, agents in San Diego, Cal., for the Rambler, proclaim their new garage, on Second street near A street, as the finest structure of the kind in Southern California. The building is of concrete, and contains salesrooms, offices, storage floors and a well equipped repair department.

The Ellicott Garage, 988 Ellicott street, Buffalo, N. Y., in addition to general repairing and remodeling of cars, has branched out to build bodies. This branch of the business will be known as the Ellicott Body Co., and a two story brick building has been built, in which suitable machinery is now being installed.

Woods R. Woolwine and Charles S. Anthony have formed a partnership in Los Angeles, Cal., under the name of the Big Four Automobile Co. At present the company is located at 112 East Ninth street, but will later move to a building which is being planned for a site on Olive street, between Twelfth and Thirteenth streets.

The Berrodin Rubber Co., of Philadelphia and Buffalo, has been incorporated under a state charter, and under the reorganization has elected the following officers: Willard A. McCalla, president; Martin E. Brigham, vice-president; Henry K. Buck, secretary, and Frank Berrodin, treasurer and general manager. The management of the Buffalo branch has been given to William Q. Cramp.

Davis Takes Garford and Studebaker.

A. R. Davis has been placed in charge of the Metropolitan Motor Car Co., in Cleveland, O., which has been taken over for the sale of Garford, Studebaker and E-M-F. cars. Joseph D. Porter, formerly New York manager of the Wayne and latterly a traveler for the Everitt-Metzger-Flanders Co., has been engaged to take charge of the state territory on these cars. The Metropolitan Company's salesroom and garage is on East Nineteenth street, near Euclid avenue. Several changes will be made in the building to provide offices for the Garford staff and to afford larger show space.

Kiblinger Establishing Branches.

Four cylinder motor buggies are promised among the new models of the W. H. Kiblinger Co., of Auburn, Ind. To take care of increased business the company has opened branch offices in New York City and Kansas City, and in Orillia, Ont. The Canadian office will be known as the Tudhope-McIntyre Co., with a sub-office at Calgary, Alta. The eastern office, at 256 Broadway, New York City, will be under the management of H. H. Woodrough. At Kansas City, James H. Griffith, formerly of the Studebaker company, will be in charge.

Miller to Manage New York Goodrich.

H. C. Miller, general traveling representative for the B. F. Goodrich Co., of Akron, O., and one of the best known tire men in the country, has been appointed general manager of the B. F. Goodrich Co., of New York. He assumed his new duties this week.

Brock Again to Leave Autocar.

Marcus I. Brock, who after leaving the Association of Licensed Automobile Manufacturers, returned to the Autocar Co., of Ardmore, Pa., as its sales manager, has resigned. His resignation takes effect November 30.

To Handle Twentieth Centuries.

The selling agency for the lamps and generators made by the 20th Century Mfg. Co., has been given to the Stevens-Britton-Maurel Co., of 1783 Broadway, New York City. The latter firm will handle the business with automobile makers and importers.

Benjamin Back in Syracuse.

C. Arthur Benjamin, formerly with the H. H. Franklin Mfg. Co., and later with the Aerocar Co., has returned to Syracuse, N. Y., to go into business for himself. He has taken the agency for the E-M-F. and Packard cars.

The Week's Incorporations.

Chicago, Ill.—Automobile Supply Co., under Illinois laws. Increase of capital from $15,000 to $25,000.

Chicago, Ill.—Universal Wind Shield Co., under Illinois laws, with $10,000 capital. Corporators—M. J. Moran, George Remus, and Charles Lynch, Jr.

Chicago, Ill.—C. A. Coey Automobile Co., under Illinois laws, with $75,000 capital. Corporators—C. A. Coey, D. MacVichie and B. Levering.

Chicago, Ill.—Ford Automobile Equipment Co., under Illinois laws, with $2,400 capital. Corporators—Edwin Ford, Phillip Steele, and Edward Gale.

Portland, Me.—Safety Tire Co., under Maine laws, with $2,000,000 capital; to manufacture rubber tires. Corporators—C. E. Eaton, president; T. L. Croteau, treasurer.

Greensboro, N. C.—American Motor Car Co., of Greensboro, under North Carolina laws, with $25,000 capital. Corporators—H. L. Hopkins, L. B. Hopkins, and Thomas S. Beale.

Rochester, N. Y.—Omar Motor Car Co., under New York laws, with $50,000 capital; to manufacture juvenile automobiles. Corporators—S. H. Mora, W. W. Hibbard, and F. L. Sibley.

Pittsburg, Pa.—Co-Operative Automobile Co., under Delaware laws, with $25,000 capital; to manufacture and deal in automobiles. Corporators—L. E. Negley, J. P. Vance and A. C. Martin.

Hudson, N. J.—Maxwell-Briscoe-Cleveland Co., under New Jersey laws, with $25,000 capital; to manufacture automobiles and parts. Corporators—H. O. Coughlan, L. H. Guenther and John R. Turner.

New York City, N. Y.—Shepherd Motorcar Co., under New York laws, with $20,000 capital. Corporators—Irving R. Shepherd, Joseph A. Shepherd, and Fannie R. Shepherd, 106 Penn avenue, Brooklyn.

Cincinnati, O.—Herschede Motor Car Co., under Ohio laws, with $50,000 capital; to deal in automobiles. Corporators—L. B. Herschede, Joseph Linn, W. J. Herschede, Thomas Kelly, and A. T. Herschede.

New York City, N. Y.—Kayton Taxicar & Garage Co., under New York laws, with $100,000 capital. Corporators—Edgar M. Leaventritt, John F. Jacobs, and Walter F. Tracy, 111 Broadway, New York City.

New York City, N. Y.—Excelsior Storage Battery Co., under New York laws, with $10,000 capital. Corporators—Philip Horowitz, 35 West 115th street, Bela Robins and Aaron A. Feinberg, 150 Nassau street, New York City.

New York City, N. Y.—Rapid Motor Transportation & Maintenance Co., under New York laws, with $50,000 capital; manufacturing, garage and express business. Corporators—H. C. Hunter, 30 Church street; M. S. Couch, 81 West street, New York City; W. B. Banker, Passaic, N. J.

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SEPTEMBER EXPORTS SHOW GAINS

British North America Makes a Big Jump—Increases for the Month in Seven Geographical Divisions.

Marked improvement of the export movement of American motor cars and parts took place in September, the total for the month being $277,917 as compared with $211,873 for the corresponding month last year. The greatest increase took place in the trade with British North America, the total being $131,278 as against $50,250 a year ago. The United Kingdom purchased to the amount of $50,015 during the month as against $39,321, and Other Europe bought $22,924 as against its previous September record of $9,816. To offset these gains to some extent, losses are shown in Mexico, South America, British Australasia and Africa.

The September gain, however, was not sufficient to do more than to reduce the decline for that part of the fiscal year which has passed. For the nine months ending with September, the total is $4,282,728, as against $4,963,885 for the corresponding period of 1907. No small part of the total decline is ascribable to a temporary dullness in the trade with British North America, although the greatest drop of all for the period is that of Mexico, from $512,682 last year to $218,670. British Australasia likewise shows a continued falling off, making the total for the nine months $59,380, as against $154,496 for the same period last year. Gains are shown in the totals for the United Kingdom and for Other Asia and Oceania, as well as in the group given as Other Countries. The remaining divisions are close to the figures for last year, with slight losses prevailing.

While in the nine months' total only four of the fourteen divisions record gains, the showing for the month of September itself discloses gains in seven of the divisions.

The record in detail follows:

	September		Nine Months Ending September		
	1907	1908	1906	1907	1908
Automobiles and parts of	.....	.....	*$2,356,110	.....	.....
Automobiles	$179,041	$235,607	†1,178,187	$4,442,478	$3,805,569
Parts of	32,832	42,310	†109,882	521,407	477,159
Exported to—					
United Kingdom	39,321	50,015	1,021,908	1,503,791	1,541,480
France	4,130	7,011	271,319	532,383	533,334
Germany	5,338	7,693	111,767	158,274	145,732
Italy	655	304	239,744	242,191	219,533
Mexico	25,583	15,986	546,064	512,682	218,670
Other Europe	9,816	22,924	178,689	261,061	192,274
British North America	50,250	131,278	766,431	1,086,541	997,882
West Indies and Bermuda	12,589	9,895	203,169	222,311	121,473
South America	31,514	11,979	103,459	185,054	98,158
British East Indies	1,748	3,780	26,267	28,711	23,487
British Australasia	19,004	8,876	100,913	154,496	59,380
Other Asia and Oceania	10,379	6,101	57,189	59,863	104,833
Africa	1,438	223	10,672	7,489	6,081
Other countries	108	1,942	6,588	9,038	20,411
Total	$211,873	$277,917	$3,644,179	$4,963,885	$4,282,728

* Figures are for six months, January to June, 1906.
† Figures are for July to September, 1906, inclusive.

German Grotto at Palace Show.

Detail plans for the "Great White Show" which the American Motor Car Manufacturers' Automobile will disclose to the public on New Year's Eve at the Grand Central Palace, New York City, now provide for a German grotto concealed behind a stone wall effect. A Swiss chef, who can cook in all the chief Continental languages, has been engaged, while quaint paintings and mottos from famous rathskellars and wine cellars of Germany, together with roof decorations of grape clusters and vines, will suggest the further possibilities and inviting characteristics of the retreat.

Diamond Organizes a Racing Department.

In organizing a full-fledged racing department, the Diamond Rubber Co., of Akron, O., has secured Joe Tracy as its chief, who will also act as consulting engineer on all racing equipment matters. As a driver in Vanderbilt and foreign speed contests Tracy brings a large experience to bear, and it is anticipated that with the Diamond demountable rims, the new Diamond Grip and anti-skidding tires and an organization that can take care of racing matters on a large scale, the company will be well equipped to accumulate racing honors.

Preston Buys Factory in Buffalo.

The Preston Fabric Tire Co., of Buffalo, N. Y., which was recently incorporated to manufacture automobile and bicycle tires, has bought the property of the old King Spring Co., at the corner of Niagara and West Delavan avenues. The factory building is being remodeled for the Preston company's needs.

Kee-Lox to Build Automobiles.

Enjoying considerable prominence in the typewriter field, the Kee-Lox Mfg. Co., of Rochester, N. Y., is branching into the manufacture of automobiles. Specifications for its materials are already being put in shape.

ROYALTIES GO TO THE CREDITORS

Electric Vehicle's Income on Selden Patent Set Aside for Their Benefit—Bondholders do Not Share It.

That the general creditors and not the bond holders of the Electric Vehicle Co., of Hartford, Conn., are entitled to that company's income from royalties under the Selden patent was indicated last week when an order was passed by Judge M. A. Shumway, of the superior court at Hartford, directing the receivers to transfer $90,000 from the American National Bank at Hartford to the Chase National Bank of New York City. The money is the whole of the company's share in Selden royalties paid for the year ending last September. In being transferred to New York it is deposited to the credit of Halsey M. Barrett and Henry W. Nuckols, in their capacity as receivers in New Jersey, to be held subject to the order of the United States circuit court for the district of New Jersey for the equal benefit of creditors of the company residing in any jurisdiction.

Under the new agreement with the Selden licensees last spring the total income of the Electric Vehicle Co. from Selden royalties is limited to $150,000 per annum, of which a maximum of $60,000 per annum goes to George B. Selden himself, leaving a net balance of $90,000 to the company. Although entered into in the spring, the agreement was post-dated as of effect from the first of the fiscal year, commencing October 1, 1907, so that the $90,000 which has been ordered set aside for the general creditors represents the company's net income from the Selden patent for the year.

Studebaker Begins Absorption of Garford.

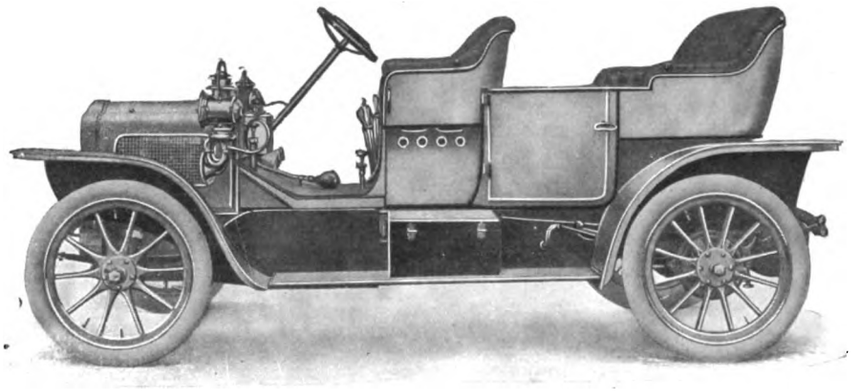
The first definite move in the absorption of the Garford interests by the Studebaker Co., and which is confirmative of the Motor World's exclusive story of the deal, occurred this week when W. B. Hurlburt, C. R. Teaboldt, and S. J. Wise, the officers of the Garford Motor Car Co., of New York, accepted the handsome offer which had been made them and disposed of their holdings. The effects of the New York establishment have been transferred to the Studebaker branch. Hurlburt and his two colleagues already have settled on their future plans which will assure their continuance in the industry.

Lasher General Manager for Koehler.

W. J. Lasher, a veteran of the New York City trade, has resigned from the Oldsmobile Co., of New York, to become general manager for the H. J. Koehler Sporting Goods Co. The latter company has the control of the E-M-F. cars for New York City, New Jersey and neighboring territory.

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A WHITE STEAMER FOR $2000



Not since 1904 have we made a car priced at so low a figure as $2,000. The White—"the car in a class by itself"—has thus been brought within the range of a larger number of purchasers than has been the case in recent years.

The new $2,000 White car, known as our Model "O," has none of the attributes of the "cheap machines." It is simply a "smaller edition" of our $4,000 car. The new model "O" is rated at 20 steam horsepower, which means that it can do the work of gasoline cars rated at much higher figures. The wheel-base is 104 inches; the tires, both front and rear, are 32 x 3½ inches. The car is regularly fitted with a straight-line five-passenger body. The frame is of heat-treated pressed steel. The front axle is a one-piece forging of I-beam cross section.

The nature of the steam engine is such that the engine of small power has all the desirable attributes of the engine of high power. In other words, as the weights of our small car and of our large car are proportionate to the power of their respective engines, the small car can do anything that our large car can do.

To summarize the features of our new Model "O" car—it is noiseless, odorless, smokeless and absolutely free from vibration. All speeds from zero to maximum are obtained by throttle control alone. The speed of the car responds instantly to the throttle; the engine can never be stalled. The directions for driving are summed up in the phrase, "Just open the throttle and steer." It starts from the seat—"no cranking." It is the ideal moderate priced machine. It is the best for the man who wishes to drive and take care of his own car. It is a result of our nine years of experience in building the White Steam Car—the only machine which finds a ready market in every portion of the globe.

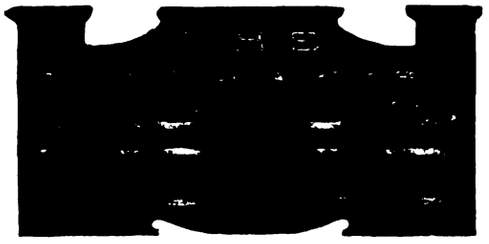
Write for circular giving full details of this car.

THE WHITE COMPANY

CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.
PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.
SAN FRANCISCO, Market St. at Van Ness Ave.
ATLANTA, 120-122 Marietta St.

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NEW YORK, NOVEMBER 5, 1908.

Odd Feature of the Rural Market.

Considerable distinction has been earned by the "farmer" market because of its strengthening influence on the sales of motor cars during the past year or two, and evidences are not lacking that in the minds of many sales managers it is reckoned as of equal if not greater importance than that developed within the corporate limits of cities and towns. At the same time, it may have escaped notice that the farmer market as such lacks proper definition and classification. To the average metropolitan reader, particularly if of the East, the broad areas of the middle West are supposed to furnish the "big" demand of the present day, while the agencies and branches of the cities and towns are thought to cater to a more limited demand which is purely local. A brief consideration of the great volume of sales credited to the latter, however, must be sufficient to show that this idea must be at least in part erroneous. Were all the sales credited to the city agencies placed directly in the cities the number of machines in actual urban service would be much greater than actually is the case. As a matter of fact the amount of city business which is placed in the surrounding country is astonishingly large and incidentally constitutes a most embarrassing element of the work.

The truth of this was forced home this week by the assertion of a well-known New York dealer that from forty to sixty per cent. of the inquiries, both personal and by letter, received at his store were from out of town prospects. Without knowing the exact ratio of sale to inquiry between the local and foreign applicants, it is easy to see that this must constitute a source of no small annoyance to the dealer, as well as a cause of more or less fruitless effort. For the salesman who is working on a commission basis cannot well be expected to work up any great amount of enthusiasm over a prospect which if it materializes at all is likely to do so through the manufacturer's main office, or perhaps even through some local agent.

Psychologically, the condition is easily explained. The prospect living in the country naturally places a high value on the advantages of coming to the city where the greater competition of a large number of agencies is likely to insure more thorough and careful treatment of the customer than is to be expected in a town which boasts but one or two agencies. This, together with the opportunities of observing a large number of cars in actual use, makes the great city a sort of mecca for would-be buyers, many of whom come merely for purposes of study, afterward placing their orders with local dealers or with makers who ship direct. The city agency thus becomes a valuable instrument of general education and publicity almost as much as a selling organ in itself. In this respect it may have an intrinsic worth which cannot be measured in terms of actual business consummated.

The handling of inquiries of this nature requires the utmost tact and diplomacy. Out-of-town customers, even those who actually place their orders with the metropolitan institution, frequently live so far away as to be completely out of the reach of possible repair and accessory sales once they have been equipped, and therefore such sales as are closed among this class of customers, frequently carry no subsequent interest to the dealer. In consequence there is a strong temptation to skimp them, and to receive the rural visitor coldly as a not over-profitable potential customer.

Effects of Misdirected Enthusiasm.

Among the multitudinous reflections engendered by an event of as great magnitude as the Vanderbilt Cup contest a question arises as to the wisdom of permitting interest in it to transcend all other interests for the time being, even to the exclusion of routine business. For days and weeks in advance of a great contest of this nature a spirit of feverish expectancy broods over all establishments which are in any way connected with the affair, and even permeates to a deplorable extent many which have no interest in it other than as one of the big happenings of the sport and its parent industry. During the days immediately preceding the event plans and preparations for witnessing it, speculations as to the outcome, idle gossip and, in the local agencies and stores, "visiting" with out-of-town acquaintances are permitted to absorb a generous portion of the time which otherwise would be devoted to routine work. In its entirety a big race, a big show, a big carnival, goes a long way toward assisting the progress of the industry—that is beyond question. Examined in detail, it would seem that frequently a sort of school-boy spirit of holiday-making is permitted to encroach upon legitimate effort at such times in a way which is not only demoralizing but directly injurious.

To cite a local instance, which it is to be hoped was an exception to the general rule, it is related that an old and valued customer of one of the well-known metropolitan establishments, himself not at all interested in racing matters, visited the store on the day of the Vanderbilt race with the intention of purchasing one of the latest models of the widely advertised car. Instead of the courteous reception which he anticipated, he encountered only the clumsy attentions of an office boy, who was much disgruntled at having been selected for the ignominious position of "housekeeper" on the great day. Of the new model, he knew little or nothing, and as a result of the brief and unsatisfactory interview the customer decided to visit further along the "row" in search of better treatment. The outcome was the placing of a provisional order for a rival make of car, almost equally famous for its excellence. As the buyer already had owned two of the first-men-

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tioneed machines and always had been a staunch ally of its makers, the loss brought about by an hysterical over-estimation of the importance of the big race, was more than that covered by the switching of something less than five thousand dollars worth of business to another concern.

Of course this is merely a convenient illustration of the effects of a condition which must have been very apparent to thinking men in the trade every time an event of more than passing interest has absorbed the attention of its people. It is debatable, perhaps, whether the wholesale renewal of interest resulting from such sweeping attacks of enthusiasm do not more than counteract losses resulting from incidents such as the one in point. At the same time it also is debatable whether the relaxation permitted at such times is of the sort likely to encourage enthusiasm of the earnest, fruitful sort, or whether it fosters merely the spirit of play and the spasmodic, jealous element of rivalry encouraged by competition which is purely sporting rather than commercial in its origin.

Location of the Gearset in Question.

"Standardization" and "refinement of detail," those mighty watch words of the press agent, have gone a long way toward removing the various sources of mechanical controversy over the points of motor car design which at one time made such valuable advertising matter. But it is to be noticed that as each ditch is crossed another presents itself, so to speak, so that as fast as one method of practice becomes accepted and is given an established value, other questions come up which have been introduced by it. The use of the method of transmission by means of the propeller shaft and floating or semi-floating axle for example, is fast gaining ground and the chain versus shaft drive controversy no longer exists as such, since the status of each type has been pretty well established. At the same time there has been developed the controversy of the two types of unit power plant and unit transmission, or axle mounted change gear, as it is variously described.

Primarily it appears more logical if the gearset is to be annexed to either the motor or axle groups, to place it in close relation to the motor rather than on the axle, and for a number of very good reasons. Thus, the motor being the more massive of the two units permits the gear shafts to be given a more rigid mounting than might seem possible otherwise, allows the elimination of universal joints or other self-aligning connections between the motor and the clutch or the clutch and the gearset, permits a compact and thorough system of lubrication to be established, and combines all the parts which are most liable to require adjustment or other attention in a position in which they are readily accessible, besides making the removal of the entire aggregation for purposes of overhauling or substitution, a comparatively simple matter. As objections to the system may be mentioned the increased load on the front wheels which results from crowding the gearbox forward, the concentration of this load on three points, usually well forward in the frame, and the necessity of careful construction in building the main bed and housing parts in such a way as to secure adequate strength without unduly increasing the weight.

Similarly it would appear on first sight that the unit transmission would suffer as a result of concentrating too much dead load on the axle. As a matter of fact, however, recent designs of this sort have been carried to such a high point of development that in one instance the rear axle of a thirty horsepower car turns out to be but 20 pounds heavier with the gearset than it was without it—the axle design remaining practically unchanged in other respects. Whatever the increase in axle dead weight may be, it has the effect of bringing about a more uniform distribution of weight on the wheels than otherwise would be possible, which of course, is of considerable advantage. Advantages accruing from the adoption of this system include the compact grouping of the gearing, the simplicity of the housing and the fact that both gearset and differential mechanism may be lubricated by a common oil bath; ease of inspecting, repairing or replacing the entire group when any difficulty exists; ease of interchanging the entire group, and accessibility—since it may be got at without interfering with the body or its load in any way.

Both systems fare alike in regard to ease of interchanging the complete units, and both are advantageous in respect to clearing the waist of the chassis of mechanism. In fact, the question appears to be whether it is better to separate the power plant between the clutch and the gears or between the gears and the differential. Actually, and with well thought out design, arguments as to weight distribution, durability of parts, simplicity of construction and economy of construction and upkeep remain to be worked out in a manner which will differentiate clearly between the two methods of arrangement. At the present time the unit power plant arrangement is in more common use than that of the unit transmission. Yet the latter system has among its strongest advocates so many cars of remarkably good reputation that the balance of advocacy is pretty nearly equal all things considered.

COMING EVENTS

November 6, St. Louis, Mo.—Manufacturers & Dealers Association's hill climb, Soloman's hill.

November 6-7-8, Detroit, Mich.—Detroit Automobile Dealers Association's three days endurance run.

November 7, Denver, Colo.—Denver Motor Club's economy test to Greeley, Colo., and return.

November 7-8, St. Louis, Mo.—Track meet, old fair grounds.

November 7-8, New Orleans, La.—New Orleans Automobile Club's two days race meet, State Fair grounds.

November 14, Philadelphia, Pa.—Quaker City Motor Club's race meet, Point Breeze track.

November 25, Savannah, Ga.—Automobile Club of America's 200 miles light car race.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles race.

November 27, Denver, Col.—Colorado Industrial Exposition Association's race meet. Overland Park track.

December 31, Long Island Motor Parkway—Speed trials against time, auspices of the Long Island Motor Parkway, Inc.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show, Madison Square Garden.

January 23-30, Philadelphia, Pa.—Philadelphia Automobile Trade Association's annual show.

February 6-15. Chicago. Ill.—National Association of Automobile Manufacturers' Show, Coliseum and First Regiment Armory.

February 27-March 3, Hartford, Conn.—Automobile Dealers' Association show.

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FLETCHER "LIFTS" BRAZIER CUP

Only Nine Contestants in Philadelphia Automobile Club's Touring Contest—Legal Speed Over Short Course.

A touring contest over a course only 65 miles in length is quite a homoeopathic dose for the up to date motorist, and the winning of a trophy under such conditions does not seem a difficult matter. Nevertheless the nine members of the Automobile Club of Philadelphia, who set out on the sixth annual contest for the Brazier cup on Saturday, 31st ult., found occasion for some perplexity, and incidentally lost two of their number before going the full distance over the 64.9 miles route. Gustavus B. Fletcher driving a Packard runabout, carried off first prize. In doing so, Fletcher repeated his victory of three years ago, when he succeeded in lifting the trophy under more exciting conditions.

The contest was not one of endurance, high speed, reliability, or any other conditions very strenuous. Instead, the scheme was for contestants to adhere as closely as possible to a schedule that would exactly coincide with legal speed limits. A total running time of 3 hours 47 minutes 10 seconds was alloted, making the contestants reckon upon an average speed of about 16 miles per hour. Three blind controls were scattered along the route, which was through Lansdowne, Swathmore, Media, Devon and Norristown and back to the Quaker City, and the times of all the contestants were taken as they passed the three points. Penalizations were imposed upon cars passing controls behind or ahead of time—one point for each minute early or late. Repairs and adjustments were not taken into consideration.

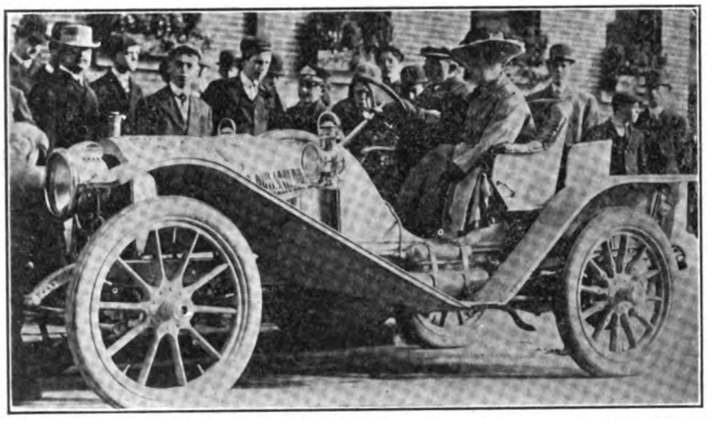
When the nine contesting cars checked in at the finish and the committee began the arithmetical process of putting down six and carrying two, Fletcher was credited with covering the distance with 17.5 points against him, which was just one minute better than his nearest competitor, H. P. Bailey (Winton). Frank Hardart, Jr., with an Elmore, and C. Y. Abbott, in a Pennsylvania, tied for third honors, each having a penalization of 22 marks. Seven of the nine starters finished the run within the five hours limit, J. R. Curtis's Franklin and W. S. Harding's Autocar being disqualified for staying out too late.

Most of the confetti which chickens did not eat, was swept in many directions by a promiscuous breeze, so that at forks in roads, it scarcely served its purpose. Contestants for the most part, however, had little difficulty in following the course. At Devon, there was a slight mix-up, owing to the regular road being torn up and this necessitated a detour. The roads were in very fair condition, barring a few bad stretches, and while the wind was a high one, it exhilarated, rather than annoyed, the competitors.

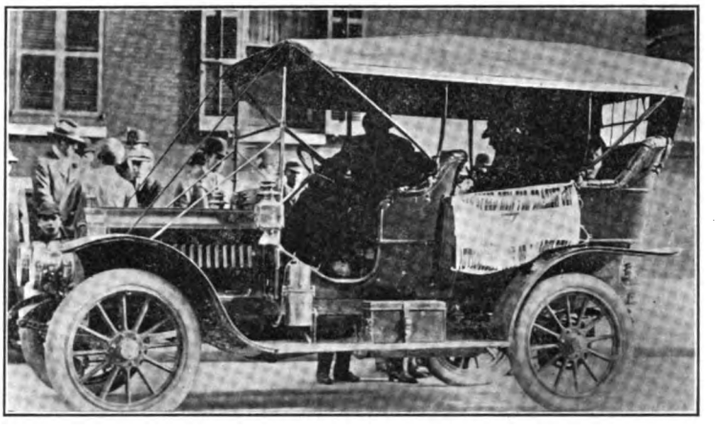
"The club's run for the Brazier Cup on Saturday was a farce," declared a prominent member. "It was really too sad to be amusing. Could anything be more ridiculous than a club enjoying a membership of upward of 700 owners of motor vehicles, mustering a turnout of as many as nine cars in its annual road competition? The conditions all favored a large representation—owners of cars holding membership in the club or members of their immediate families were called upon to drive, and this eliminated the possibility of any specially prepared manufacturers' car in the hands of factory experts coming into unfair competition with the bona fide amateur."

The score of the day was as follows:

	Penalty. M. S.
G. B. Fletcher, Packard	17:30
H. P. Bailey, Winton	18:30
C. Y. Abbott, Pennsylvania	22:00
Frank Hardart, Elmore	22:00
Horace Allen, Buick	32:00
E. L. Miller, Packard	52:00
J. D. Avil, Pope-Hartford	71:30
J. R. Curtis, Franklin	Out
W. S. Harding, Autocar	Out



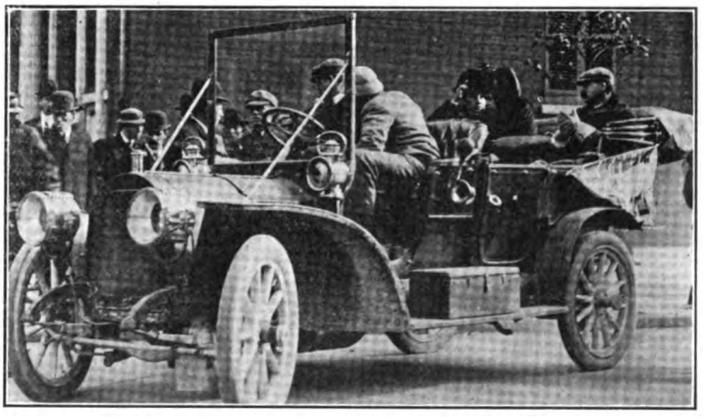
FLETCHER, PACKARD, THE WINNER



HARDART, ELMORE, WHO FINISHED FOURTH



PILOT CAR THAT SET THE LEGAL PACE



MILLER, PACKARD, PENALIZED 52 POINTS

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MUDDLES MAR DAYTON RACEMEET

Regular Card Greatly Curtailed and One Contest Results in a Squabble—Confusion Attends Novelty Event.

It is to be hoped that the next time Dayton, O., promoters hold a race meet, their efforts will be crowned with a greater measure of success than on the occasion of their first attempt. A series of automobile track contests which was undertaken on Saturday last, 28th ult., resulted in a miserable fizzle. Fourteen events were scheduled as an afternoon program and only four were run off, one of which ended in a row and was called "no race." Few spectators turned out to witness the meet, and the grandstand and rails held but a small number of motor enthusiasts. Many of those present were so disgusted with the way things were run, that they departed before the races were over. Indeed, practically the only sucessful feature of the meet was L. B. Lorimer's performance in the Chalmers-Detroit "Bluebird." He shattered the one-mile record of that half-mile track (1:21½), made some time ago by B. Oldfield, the track "artist." Lorimer sent the Bird around for two laps in 1:16⅘ in an exhibition after taking a flying start.

After a 3 miles handicap motorcycle curtain-raiser, a few motor cars, selling at $2,000 or less, lined up for a 2 miles event. They kicked up the dust for a half-dozen laps to a successful finish, when the trouble began. Irving Knupp and Otto Wolveries in Buicks led all the way, the former crossing the line first. Following were W. R. Burns in his Chalmers-Detroit "30" and Lang's Overland, but instead of awarding the cup to Krupp, the judges gave the decision to Burns in the Chalmers, on the ground that the other entrants did not comply with the requirements, by not carrying three persons, including the driver. Howls of disapproval went up from the spectators and a small sized riot was threatened. After a few minutes, however, Hugh Chalmers of the Chalmers-Detroit Company, who was present, said he was willing that the event should be declared off, as he wanted nothing but a clean cut victory for his car, with no "ifs" and "buts" about its place at the finish. This settled the trouble, the judges officially calling the race off. It seems the race called for touring cars, of which the Chalmers was the only competitor; however, it was provided that runabouts might enter, provided they carried three passengers. This point, it was ascertained, was misunderstood by the Buick drivers.

The next "number" attempted was a 2 miles "special" event for Buick cars only, and Otto Wolveries captured it with Knupp second, in tame style, to the tune of 3:02. This was followed by an open novelty race, to which cars of any horsepower were eligible. The conditions were: that the operator drive his car for the first lap alone; at the end of the first lap pick up three men passengers; at the end of the second lap discharge all passengers; at the end of the third lap pick up passengers again; at the end of the fourth lap, discharge passengers; finishing the fifth lap alone. Cars had to be in bounds before loading and unloading passengers. In endeavoring to pursue this elaborate plan, most of the contestants became sadly confused. Wolveries won the event in 4:40 time, but the balance of the competitors were disqualified for not unloading their passengers properly.

Following this, general impromptu exhibition events were run off in an effort to comfort the disappointed spectators. After making his mile trial, Lorimer fought Paxon in a Jackson a mile match race. The "Bluebird" outdid its contestant, however, due in some measure to the Jackson having been damaged to some extent when it caught fire earlier in the day. Lorimer's time for the distance, one mile, was 1:30⅘.

Fred Huyck on an Indian motorcycle beat Knupp driving his Buick from a flying start in a 3 miles brush and John Lewis drove an exhibition mile with a heavy Speedwell truck, in 1:58. But watching a truck roll around all by itself was not very exciting, so a couple of additional motorcycle races were reeled off to wind up the affair.

Denver to Hold an Economy Contest.

On November 7, the Denver Motor Club, Denver, Colo., which was organized last summer, will conduct its first gasolene consumption contest on a run from Denver to Greeley, Colo., under conditions prescribed by the technical board of the American Automobile Association. Owing to the nature of the test, the rules adopted are not very stringent, the cars merely being required to adhere to a schedule not greater than that set by the pilot car, check in at the controls within a reasonable time, completing the round trip by not later than 5 p. m. Work on tires and other parts of the car necessary for safe running will be permitted without penalization, with the exception of carburetter adjustment or other regulation of the motor necessitating the breaking of hood seals. The score percentages will be determined by the formula: weight of car, including passengers, divided by the weight of gasolene consumed, expressed in half ounces. The Ralph W. Smith cup will be awarded to the contestant securing the highest percentage on this basis, while a second silver cup will be given to the driver completing the run with the least gasolene consumption, regardless of weight or percentage.

London Taximeter Cabs Worth $20,000,000.

Recent estimates place the value of London's taxicabs at $20,000,000. Many of the machines are owned by their drivers.

"BIG THREE" THRILL NASHVILLE

Oldfield, Christie and Soules Give Their Hair Raising Performances There—"Tennessee State Record" Falls.

That renowned trio of melodramatic thrillers and monarchs of the merry-go-round school of driving, namely, B. Oldfield, W. Christie and C. Soules, served a fine exhibition of "keen dare-devilish competition" to the awe-inspired spectators at Nashville, Tenn., on Saturday, the 24th ult. The "feature" of the afternoon was a two miles event between Soules in the "Red Devil" and Christie driving his "Record Breaker," in which the former won. Christie got away first and held the lead with his opponent almost touching his rear tires, until the last eighth of a mile, when Soules shot to the front and led the front-wheel drive car at the finish by half a length in 2:07.

As is customary wherever the "noble three" perform, Oldfield beat Soules a few moments later in a 3 miles spin. Soules led until the stretch very neatly, letting Barney pass him just in time to make the race another Oldfield victory in 3:02. Later Oldfield covered a mile in his Stearns racer in 0.55¾, claiming to lower the "Tennessee State record," whatever that was. The best that Christie could do was a mile in 0.59, which he accomplished after several attempts.

In a 5 miles exhibition, Soules skirted the track in lively fashion, covering it in 4:55⅘, while in a 2 miles race for touring cars with Butler and Conners, two local drivers, in a Buick and Stoddard-Dayton, respectively, Soules also triumphed.

Time Trials Carded for Motor Parkway.

That the Long Island Motor Parkway is not destined to remain long in idleness is evidenced by the anouncement that a series of speed trials against time will be held on Saturday, December 31, under auspices of the Long Island Motor Parkway, Inc. Cars which competed in the recent Parkway Sweepstakes event (for machines selling at $4,001 and over), Vanderbilt Cup cars and racers of the Grand Prize type, will be the only ones eligible. The trials are to be at one mile, two miles and one kilometer.

Owing to the lateness of the season, and in order that each car may have at least two trials, it is expected to start the events promptly at 12 o'clock noon. Arrangements are being made so that cars will be automatically timed for each of the three distances, the finishes of which will be uniformly at the grandstand.

Entry blanks will be ready for distribution this week, from the office of A. R. Pardington, vice-president tnd general manager of the Parkway, at 527 Fifth avenue, New York City.

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TWENTY-TWO GRAND PRIZE ENTRIES

America, Germany, France and Italy Represented—Savannah Makes Lavish Preparations for the Event.

When the entries for the Thanksgiving Day Grand Prize race, to be held at Savannah, closed on Monday, November 2. the list totalled up to 22 cars. The late entries of a Chadwick and a National—both six-cylinder cars—and a Simplex, completed the American team of half a dozen, while of the foreigners, France and Germany are each represented by five entries, and Italy with six. In the light car race, there are 17 contenders—a quartet each of Maxwells and Buicks, three Chalmer-Detroits, and one each of American Aristocrat, Cameron, Lancia, S. P. O., Gregoire and Isotta; the four latter being the only foreign cars entered in the shorter event. A trio of De Dions and two Gyroscopes, as well as the three Oldsmobiles previously entered, have been withdrawn. Two entries in the big class will not start; the Matheson and the B. L. M.—the latter following its usual custom.

The Chadwick entry, which Willie Haupt is scheduled to drive in the Grand Prize competition, was announced the latter part of last week and on the closing date, Charles A Singer announced that a Simplex car would be put into the fray with M. J. Seymour at the wheel, while the National Motor Vehicle Co. rushed in the formal entry of one of its "sixes," not naming the driver. The nomination of these three cars augments the chances of America's team considerably. Both Haupt and Seymour participated in the Vanderbilt Cup race on the Long Island Motor Parkway two weeks ago.

Foreign drivers have been arriving in goodly numbers during the past week. Wagner, Nazzaro, Duray, Hautvast and Rigal came in on "La Lorraine" last Saturday, the three former having visited America before to drive in Vanderbilt Cup races. Rigal and Hautvast are on their initial trip to America. Cagno and Piacenza, the two Italian pilots, reached here Tuesday before last and spent the week "seeing New York," although the former had seen it two years ago. When "La Touraine" arrives next Saturday, it will bring in a cargo of foreign cracks, among whom will be Hemery, Hanriot and Erle, the trio of Benz drivers; Szisz, of Renault fame, and Fournier, the third of the Itala crew, with their retinue of factory men. Fournier is known to many American motorists of the pioneer days, who recall his performance on the Coney Island boulevard. The first of the visitors to start for Savannah were Wagner and Nazzaro, on Tuesday, with Ralph De Palma, the third member of the Fiat team; also Piacenza and Cagno, of the Itala forces, and Duray, driver of the De Dietrich car.

There has been no change in the announcement of the American drivers in the big race at Savannah, with the exception that Louis J. Bergdoll has nominated H. F. Grant to handle his Locomotive instead of the entrant driving himself as originally planned. Patschke will have charge of the Acme; Michener, the Lozier, while Seymour and Haupt will pilot the Simplex and Chadwick, respectively. Strang and De Palma are the only two Americans who will be at the wheels of foreign cars. The interesting news was broken yesterday (Wednesday) that George Robertson will pilot the French Gregoire car entered by Henri Neubauer for the light car race. This nomination means that this voiturette, which is little known to Americans, will be closely watched on the 25th.

Savannah is continuing its elaborate preparations for the big event, not only upon the course, but with a view to accommodating thousands of expected visitors. A house to house canvas is said to have disclosed prospective accommodation for no less than 18,000 visitors, though this hardly seems creditable to those who witnessed the stock car race of last April.

Of course, country trails have been turned into 60-foot macadam roads. Turns have been banked; the course within a course—the 10 miles route over which the light car race will be run on the day preceding the Grand Prize, is now well on the way to completion.

In the neighborhood of $32,000 has been spent on the roads and the labor of a thousand convicts has been donated by the State to bring the course up to the requirements.

Altogether, Savannah still remains true to the conviction that the Grand Prize will be the grandest contest of the sort ever seen in the country, and there is small doubt that it will be a big and hard fought contest. Also, if the tourist agencies and their allies in the daily press have their way the endorsement of a huge popular attendance also will not be lacking. As a matter of fact, it is on this particular phase of the affair that the question of the venture really hangs.

Desert Race Scheduled for November 7.

November 7 has been set as the date for the "great desert race and sand battle" which is to take the form of a road race between Los Angeles, Cal., and Phoenix, Ariz., although there is a possibility of the contest being postponed until some days later. This affair which the Maricopa Automobile Club is agitating in the far southwest has but three entries so far, though others are in prospect. The entrants are: A. J. Smith, who expects to pilot his Elmore "Bulldog"; Leon T. Shettler, who is banking on his Kisselkar, and R. J. Leavitt, the local Locomobile agent, who will endeavor to score another Locomobile victory.

PLANNING THE NEW RACING CLUB

Initial Steps Taken for Organizing Body to Control Speed and Other Contests—Probable Leaders in Personnel.

Pursuant to the clause in the treaty between the American Automobile Association and the Automobile Club of America by which it was provided that the A. C. A. should retire from the management of racing affairs after this year, ceding its control of the Grand Prize to an organization to be formed under the control of the Long Island Motor Parkway, which also was to handle the future contests for the Vanderbilt Cup, announcement was made early this week that the initial steps looking toward the formation of such an organization had been taken and that its full composition would be announced within a short time. That arrangements for the complete institution of this body will be completed within a few weeks is to be inferred from the urgent necessity of getting out plans for the big contests of next year in season for the manufacturers who desire to enter cars, to be able to make ample preparations for the coming contests.

It is stated that the new club is intended to take the same position in automobile racing which the Jockey Club holds in horse racing affairs. The organization, nominally at least, will be non-partisan so far as the late differences of the A. A. A. and A. C. A. are concerned, but will fuse the interests now controlled separately by these two bodies in a common and exclusively racing management. Naturally, the powers behind the Long Island Motor Parkway are keenly interested in the venture, and it is even intimated that at some future time the headquarters named—will be located on that course. Whether the present Vanderbilt Cup Commission will be disbanded or whether it will continue its jurisdiction over the trophy in its new status, remains to be decided. Certainly the new body will in no way be a rival of the commission. In fact the membership of the two will hold several names in common. Of these, that of William K. Vanderbilt, Jr., donor of the cup, of course will figure most prominently. Jefferson DeMont Thompson also is interested in the movement, it is said, while Henry Sanderson, W. G. McAdoo, W. M. Hamilton and Robert Lee Morrell also are mentioned.

Campbell Heads New Orleans Club.

At a meeting of the newly formed New Orleans Automobile Club, held on Monday, 26th ult., officers were elected and the idea of affiliating with the American Automobile Association was talked over. Thomas C. Campbell was voted president; Theodore Grunewald, vice-president; and Homer George, secretary and treasurer.

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RACING PUTS DALLAS ON EDGE

Twenty-five Thousand Spectators Grow Excited Over Automobile Contests—Tone Captures Chief Event.

If any one entertains more doubt as to the popularity of automobile track racing in the Lone Star State, that person should have been at the State Fair meet at Dallas, Tex., on Sunday, November 1, when the cars buzzed around the saucer before an excited throng of fully 25,000 people. The interest was keen from the very first getaway, in a 10 miles brush between W. Gale (Buick); P. R. Plummer (Ford), F. Malone (Pope), and J. M. Girard (Packard). The latter, who was the favorite, captured the event in 13:58, after giving Gale a hot chase and not catching him until the tenth mile. The others were outclassed from the start and lapped before they had gotten very far.

This served to whet the appetite of the crowds for the second spasm, a 50 miles affair, which was won handily by Tone, driving an American Roadster, when George Clark's Pope and P. W. Willard's Stearns met with trouble.

Steamers were barred from competition events, but Seyfried, in a White steam stock car set out in an attempt to clip the track record. He was unsuccessful, however, his best time being 1:02½, which was the fastest time of the day. This, in view of the fact that the White was not allowed to enter competition events speaks for itself.

A 10 miles event for cars of 30 h. p., and over saw only two contenders—Clark, in a Thomas, and Hill, in an Oldsmobile. Clark got the jump on his opponent, and kept increasing the gap until the third mile, when something went wrong. The driver, however, kept up his nerve and presently had the car running well again, lapping Hill on the eighth round and taking first in 12:45⅞.

When the 10 miles free-for-all event was called, but two cars appeared at the line. Shortly after they left the tape it was noticed that Bertrand's Pope-Toledo had caught fire. When the flames were extinguished and the race re-started, Tone in the American toyed with the Pope driver until the last lap, when, satisfied with showing how easy he considered his opponent, he bid for the applause of the multitude, made a grandstand play and won in 12:28½.

Clark in a Thomas, won an amusing novelty race, and then Gus Seyfried, in the White, began to perform again. Inasmuch as no one accepted the White's challenge to a five miles bout, Seyfried did the next best thing and drove a five miles exhibition with his stock car; Dundee's specially built White Flyer having been wrecked in practice, when it went through a fence. Seyfried's time was 1:03½, 2:06, 3:10½, 4:14, 5:18⅗. Following which, Tone drove a 2 miles exhibition with the American in 2:08¼.

Strang to Star at New Orleans Meet.

Having billed Lewis Strang as the "world's champion auto racer" in the local press and on the fences in New Orleans, La., the promoters of a two days race meet to be held in that city on November 7 and 8 have agitated the public in that section of the south up to a point where they take it for granted that Strang will break all sorts of world's records and do much manner of wonderful things. His two Renault cars have reached New Orleans and the "dare-devil driver" who will pilot them, is reported as having headed for that city. The old Peerless "Green Dragon," which has gone through about as many processes of rebuilding and replacing of parts as the "original Florodora Sextette" did in its palmy days, will be an added attraction. This merry old car is now said to be the property of James A. Clark, a New York millionaire, and Strang is scheduled to whirl it around for a few laps. The newly organized New Orleans Automobile Club, under whose auspices the meet is to be held, has applied to the American Automobile Association for a sanction.

Racers Must Stop to Examine Tires.

In connection with the track meet scheduled for Denver, Col., on Thanksgiving Day, a novel suggestion has been made with regard to the 25 miles event. It is reported that after covering twelve miles of this race, contestants will be obliged to stop and thoroughly examine their tires. Just why it is deemed necessary to stop after going the short distance of a dozen miles, when in longer and faster races, such stops are not made as a rule, is not disclosed. Tires, it seems, will be the only things examined and if the expert eyes of driver or mechanician perceive that a set of tubes is about to blow out after the hard going over the dozen laps of oiled course, they will be changed and thoroughly healthy ones substituted.

Quaker City Plans a Race Meet.

That 24 hours race that was proposed by some of the members of the Quaker City Motor Club will not take place. A race of 500 miles or so, however, may be run at Point Breeze track on Saturday, November 14, or in lieu of that a number of short distance events. The board of governors of the club has empowered the racing committee to hold a race meet on that date, although it limits the time for such an event from 7 a. m. to 5 p. m.—very peculiar hours. Point Breeze has been definitely decided upon as the scene of the meet, but the rest of the details have not yet been announced by the racing committee.

CHICAGO CLUB PLANS NOVEL MEET

Ten Days Reliability Contest for Electric Vehicles to Cover 1,000 Miles—Rules of Penalization.

Provided the plans of the Chicago Motor Club go through as smoothly as the technical committee anticipates, its 1908 contest season will conclude with a ten days reliability test for electric automobiles, to take place in November. Frank Perley, of the Babcock Electric Co., recently made an application to the club for such a contest, to be conducted along lines similar to that of the recent 1,000 miles reliability test for gasolene and steam cars.

The various Chicago branches of the electric manufacturers, including the Studebaker, Columbia, Baker, Anderson Carriage Co., and Woods, appear to be strongly in favor of the proposed event, the like of which has never before been held. The technical committee is in favor of having the run cover a route of 1,000 miles or so, including an average of 100 miles a day, wth a varyng speed schedule—20 miles an hour for one day, 15 for the next, ten for the next and on other days a combination of speeds between different controls. Rules would provide penalties for replacements, repairs and work done on machines, with due allowances for recharging.

Following the Hounds by Motor.

Fox hunting with no red-coated equestrians and with a Gabriel horn, instead of a bugle, for summoning the hounds is the unpicturesque system employed by Professor J. F. Draughon, of Nashville, Tenn., who now uses a motor car instead of horses for this sport. His hunting ground is about 30 miles from Nashville, and in order to transport his pack of 37 registered dogs to the scene of action he has devised a large trailer which he couples to the back of his machine. When the scent has been struck, the trailer is left by the roadside and the professor's car may be seen scurrying up lanes and crossroads so that he may be in at the death. After the fox has been run down, Draughon returns to his trailer, toots vigorously on his exhaust horn for the wanderers of his pack, and after they are all assembled piles them into their cages on the trailer for the haul back to town.

St. Louis to Hold Three Days Carnival.

St. Louis (Mo.) motorists are arranging for a three-day carnival for Friday, Saturday and Sunday, November 6, 7 and 8. The Manufacturers & Dealers Association's hill-climb, which was scheduled for November 2, has been postponed to Friday, November 6, the opening day of the carnival. On the two following days, there will be a track meet at the Fair Grounds where Christie, Oldfield and Soules will appear.

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AUTOCAR COMMERCIAL VEHICLE

New Product Designed Along Independent Lines Adapted to Large Range of Use —Its Noteworthy Features.

On the sound principle that the duties of the purely utility vehicle are so radically different from those of the pleasure car as to permit of no confusion between the various components of the two types, the new line of commercial cars which recently was announced by the Autocar Co., Ardmore, Pa., has been built along entirely new and independent lines, though introducing a number of features which have been distinctive to the pleasure types of Autocar for a number of years. By dint of thoughtful handling of the design also, an unusually comprehensive range of purposes may be served by these machines, though they are made in but two lengths of wheel base, and otherwise conform to a single standard of construction.

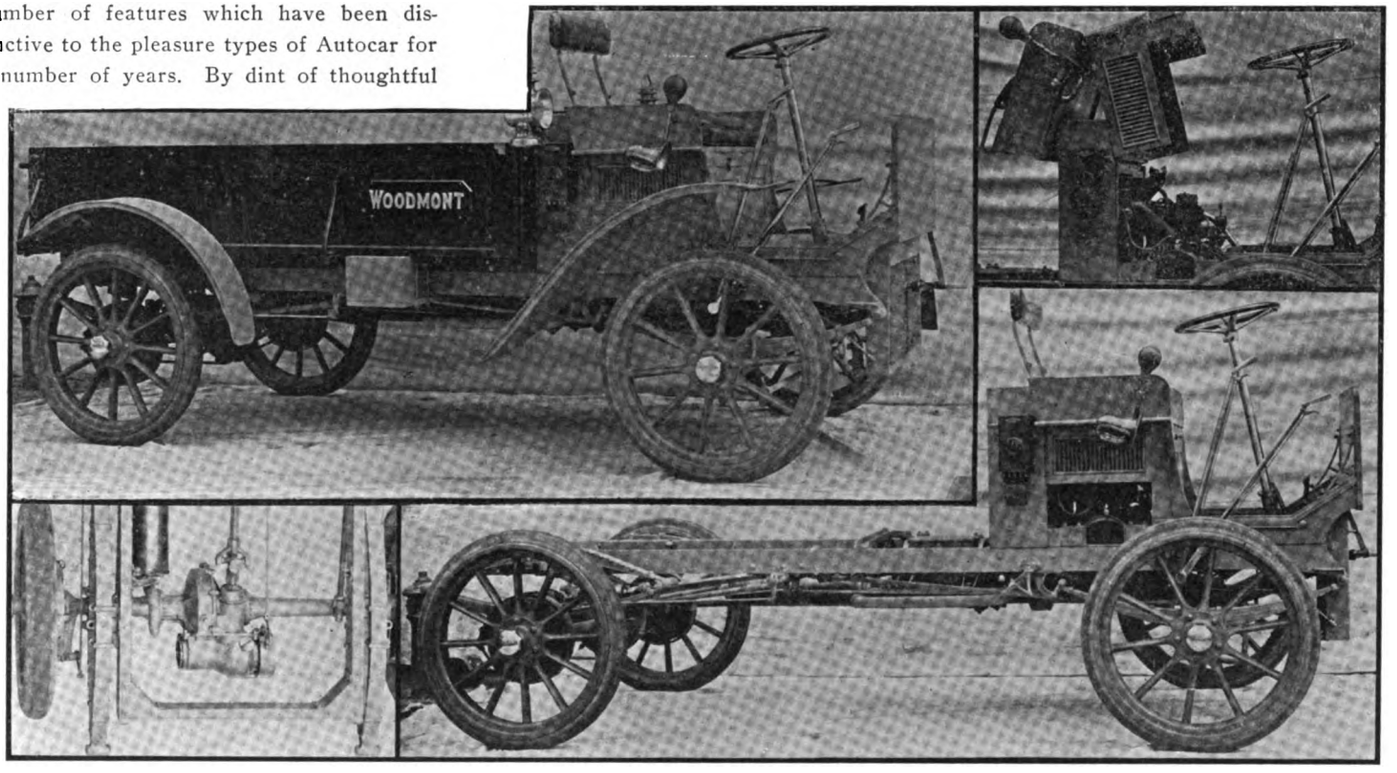
In fact, but for this distinction and the different sizes of body which may be adapted to them they are practically identical. A single exception to this is in the specification for tires, which in the smaller chassis are pneumatic and in the larger, or rather longer, solid. The former has an 85 inch wheel base, and accommodates a body platform 48 inches wide and 68 to 90 inches in length, according to requirement. The latter has a platform 48 inches wide, and is capable of taking any desired body length between the limits of 80 and 100 inches. For the lighter work of the short wheel base machine, 32 by 4 inches pneumatic tires are employed, while the larger car is shod with 32 by 3½ inch solid tires. The shorter vehicle is intended primarily for commercial passenger work, while the other is capable of handling either heavier delivery work or light freight haulage, and is rated up to 2,000 pounds load capacity.

In the design of the machine—considering both vehicles as of uniform construction for the sake of brevity—the objects of working economy and interchangeability have been served by the use of a complete and independent power plant, which is given a three-point mounting on the main frame, and a driving axle construction which permits of ready removal from the chassis as a unit, or almost complete dissection without disturbing the body. This object, in the case of the power plant, has been worked out in such a way that when it is not desired to remove the plant as a whole, either the motor, gearing, gearset or clutch, or one or more of a number of important componants may be removed without disturbing the asemblage in other respects. The same result also is developed in the construction of the rear axle. Practically any part of the power plant or transmission may be dismounted without interfering with the adjacent parts except to disconnect it.

The power plant, though not mounted in a common housing, is carried by an independent subframe which is attached to the side members of the main frame at two points in front, and is carried in the rear by a single connection with a transverse yoke. The removal of the entire plant entails merely the relaxing of these three connections, and the disjointing of the necessary pipe connections.

The motor is of the double-opposed type, measuring 4¾ by 4½ inches bore and stroke, and yielding an A. L. A. M. rating of 18 horsepower. The valves, which are interchangeable, are placed on the upper sides of the cylinders, and worked from a single cam shaft. The crank shaft, which is mounted on extra large, Hess-Bright ball bearings, carries two fly wheels, one at either end, so counterbalanced as to compensate all vibration tendencies as closely as possible, making an unusually quiet running motor. The forward fly wheel carries fan blades, and replaces the usual belt-driven fan in assisting the cooling system. In the larger chassis, this fly wheel also carries a governor which limits the crank shaft speed to 1,300 revolutions per minute.

Magneto ignition is a standard feature of the equipment, the magneto itself being attached to the top of the crank case by means of a couple of wing bolts. It is so arranged that it can be removed or replaced without disturbing the timing. As it is of the low tension type, the coil which also is included in the equipment may be used for ignition with batteries. The upper section of the crank case, which is divided into two parts, carries the push rods and guides for the valve gear, the water pump driving gear, the magneto and oiler—the latter being secured by means of dowel pins and a single wing nut.

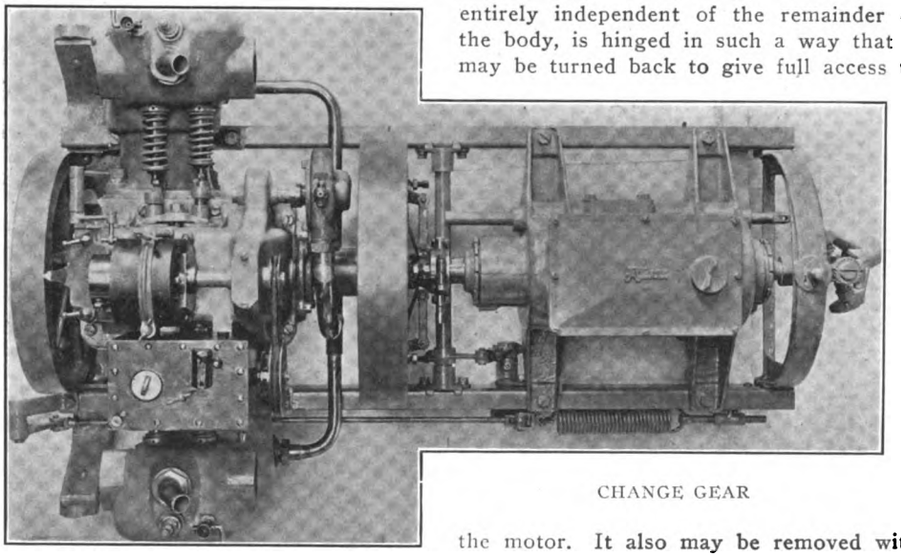


AUTOCAR DELIVERY WAGON, OPEN BODY, CHASSIS AND DETAILS SHOWING REAR AXLE CONSTRUCTION AND ACCESSIBILITY OF MOTOR

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The rear fly wheel carries the clutch, which is of the three-plate pattern which has been employed on cars of this make for several years, with but slight modification. The central, bronze floating ring, is equipped with cork inserts. The change gear is of the progressive sliding gear type, affording three forward speeds, with a direct through drive on the high. It is mounted in a one-piece housing and both the lower, lay shaft, and the upper, driving member, are set in Timken roller bearings. The propeller shaft is equipped with two universal joints, and is arranged for a practically straight line drive under full-load spring deflection.

This is assisted by the design of the differential and reduction group mounted on the rear axle, which is of original and very unusual form, the usual simple bevel reduction being dispensed with in favor of a double reduction through bevel and spur gears. The propeller shaft, passing over the axle, drives a short counter shaft through beveled gears, while the latter is connected to the differential member by means of a pair of heavy spur pinions. Advantage is taken of the position of the countershaft, to mount upon its extension a wide faced drum for the application of the emergency brake. By eliminating the large single reduction which otherwise would be necessary and the consequent weakness of the smaller bevel gear, added reliability has been secured, while the use of the countershaft also permits a considerable variation in the final driving ratio as required. This may be anywhere between 3.71 and 5.57 to 1, according to the gear sizes employed.



AUTOCAR MOTOR

Considerable originality also is displayed in the construction of the rear axle itself. The driving stubs are squared at both ends, the inner end which is mounted on Hyatt roller bearings, slipping into the differential gearing, while the outer end is carried by Timken bearings. The latter bearings are so arranged that the inner member on a turn carries the end thrust of the wheels. The axle housing is in five pieces, no parts being riveted or brazed, and the spring seats and brake supports are made integral with the axle tubes. The central portion of the housing, which carries the countershaft, is removable, and all parts except the large gear on the differential may be removed from the axle without taking the latter from under the car. The front axle is tubular, equipped with Elliott steering knuckles, and the front wheels are mounted on Timken bearings. The frame is of armored wood, and is supported by semi-elliptical springs in front and full elliptics in the rear.

To return to the general arrangement of the vehicles, the front seat, which is made entirely independent of the remainder of the body, is hinged in such a way that it may be turned back to give full access to the motor. It also may be removed with small loss of time, while side doors give access to the working parts for minor adjustments. Control is accomplished by means of the usual double pedal-double lever arrangements, with motor controlling devices mounted on the steering wheel. By this arrangement, the style and disposition of the body is left entirely to the option of the purchaser, who in place of the stock type of body, may have any special type which he may require. Numerous varieties of freight-carrying bodies are adapted to the chassis, while the passenger arrangements may be made to include anything from a 12 passenger omnibus to a neat and unusually roomy little landaulette seating four passengers inside.

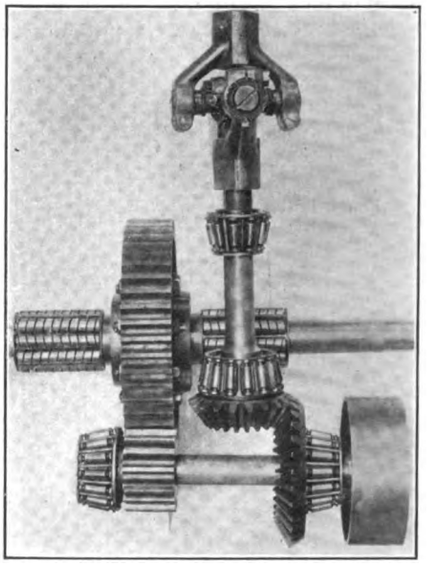
CHANGE GEAR

Regular Route for "Trouble Car."

"Trouble cars" or traveling repair shops are by no means novel as far as the basic idea of sending a heavy machine out on the road equipped with a full allotment of repair parts and tools is concerned, but the method of a British repairer in handling such a machine is commendable as well as novel in its enterprise. On Sundays and other holidays when the motor traffic along certain well known roads in the vicinity of Brighton is likely to be heavy, the machine in question is given a regular route to be covered and a schedule. In addition to this, telephone stations are established at points along its "beat," and the man in charge is directed to keep in regular communication with the dispatching point. By this means motorists anywhere within a considerable range of highway are enabled to secure efficient repair service within a short time, and as the wagon carries a full assortment of such supplies as are likely to be required, delays in consequence of the more common forms of accident are comparatively brief.

Clearing Tire Valves of Dirt.

One of the minor precautions which may have a great deal to do with securing the expected efficient service from the tire valves is that of giving the pump a few sharp idle strokes before attaching it to the tube preparatory to inflating a troublesome tire. This serves to drive all dust and dirt from the nozzle and tube, and thus prevents it from being forced into the valve when inflation commences.



REAR AXLE DRIVING GROUP

Automatic Air Valves Must be Clean.

Automatic air valves such as are an almost invariable accompaniment of so-called automatic carburetters, should be kept scrupulously clean. The slightest accumulation of dust, grease or dirt of any sort, either about their stems or seatings may be sufficient to upset their working and causing the most perplexing or running difficulties.

Glass Hoods on Demonstration Cars.

Glass hoods fitted with interior electric lights for displaying the motor to public view are growing popular with dealers who like to attract attention to their demonstrating cars. The moving parts of the mechanism catch the eye, and the plate glass panels of the hood suggest something particularly rare and fine underneath.

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RAMBLER ANNOUNCES SPARE WHEEL

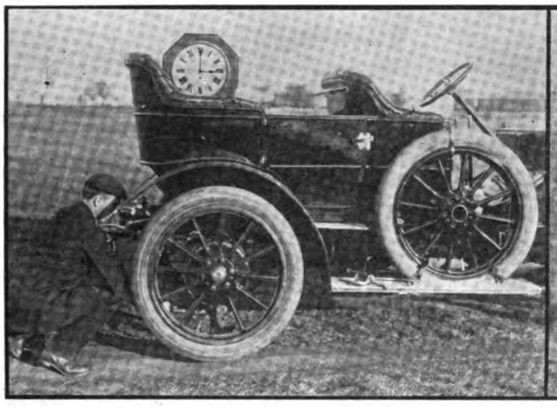
Particulars of New Optional Equipment for 1909—Ready Replacement in Case of Tire or Wheel Trouble.

As a sort of supplementary announcement to the forecast for the 1909 Rambler line, which was recently made by Thomas B. Jeffery & Co., Kenosha, Wis., the particulars of a unique added feature of the equipment have just been disclosed in a description of the spare wheel arrangement which is applicable as an option to the full line for the coming season. One of the first intimations that such an innovation was in contemplation came in connection with the Carriage Dealers' show in Grand Central Palace last month, when one of the new "fifth wheels" was shown in connection with the Rambler exhibit. Information as to its exact purpose and method of application was somewhat sparingly given at that time, however, and it was not until this week that full details of the system were made public.

From this it appears that the emergency wheel is a duplicate of the regular equipment of the car in every respect, carrying a spare tire ready inflated, and suitable for application to either of the wheels as occasion may demand. Special brackets are provided for carrying the wheels, and as it is a counterpart of the others, it may be used not only in case of tire trouble, but also in replacing an injured wheel. In general the spare wheel is carried on the running board with its extra tire, and when required as a substitute, the one which it replaces becomes the spare, no re-changing being necessary until demanded by roadside difficulties.

The wheel is secured to the hub center by six bolts. Removing the six nuts from these bolts, the wheel can be detached by means of special tools, a wheel puller and a socket wrench. Only three minutes are required to make the change.

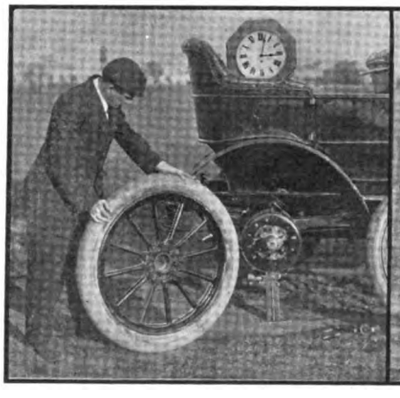
In proof of this assertion the accompanying illustrations are exhibited as showing both the time-saving proclivities of the system and also the method of its application. In the first of the upper illustrations the operator is shown in the act of jacking up a wheel which has suffered a punctured tire, the hands of the clock indicating exactly 3 p. m. In the second illustration the nuts which held the wheel in place are seen to have been removed and placed on the running board, the wheel thus being made ready for removal. Two minutes have been occupied in the process. The first of the lower pictures shows the operator in the act of changing the wheels, the one mounting the new tire being all ready to go into place. In the fourth and last picture of the series, the new wheel and tire are shown in place, and the last of the securing nuts set home, the clock indicating that but 3 minutes have elapsed while the process was going on.



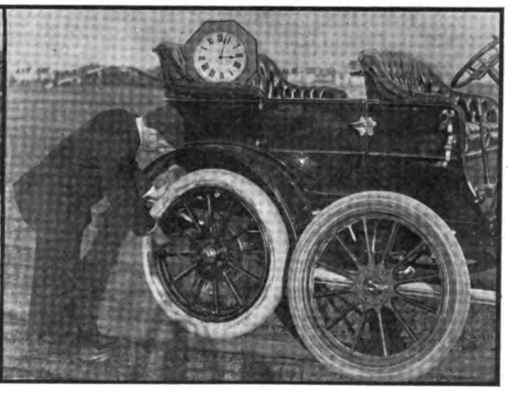
JACKING UP THE WHEEL



REMOVING NUTS



SUBSTITUTING WHEEL



SECURING THE FASTENINGS

Of the three methods of quick relief for tire trouble in present use, this has the advantage in a number of respects. The use of demountable rims alone, though conducive to ready replacement and gaining through the light weight of the extra equipment, is useless where the wheel as well as the tire is damaged. The so-called emergency wheel, which consists of an extra rim which may be clamped to the side of the wheel carrying the damaged tire also suffers from the same drawback. While the requirement for a complete extra wheel is the rarest kind of an emergency, the need is all the more imperative when it arises. Since it may be supplied with no more effort than is required to shift the ordinary demountable device the benefit derivable from its use is obvious.

B. & S. Offer Improved Tools.

With anything like a full set of angle wrenches, the motorist is generally able to take care of all the nuts and bolts that are to be found on his car. A new outfit, comprising seven such wrenches put up in a serviceable waterproof bag, is being offered by the Billings & Spencer Co., of Hartford, Conn., who have long been well known in connection with products of this kind. The wrenches are double ended, of 15 degrees angle, and the 14 sizes of milled openings range from 7-16 inch to 1¼ inches. Either semi-finish or full case hardened finish is provided for the shanks. The containing bag is made of duck or drill, and is arranged to keep each size in a place of its own.

Eleven sizes of a new and improved screw drivers are also being put out by the company. It is complete in one piece, except for the addition of the wood side pieces on the handle to provide an agreeable grip. A drop forging is used for the construction, and the point is carefully tempered.

Keeping Down the Tire Expense.

It has been declared that no less than three-quarters of the motoring public spends something like 20 per cent. more for tires than is really necessary. If care were taken to maintain the tire equipment as nearly as possible at the inflation pressure which is recommended by the makers, the cost of repairs and replacements would be reduced to a surprising extent.

Replacement of a Noisy Gearset.

When it is desired to allay the noise of a set of worn gears it must be remembered that the replacement of a single gear will have little or no effect in this respect. It is only by the renewal of both members of a noisy pair that the desired effect may be secured.

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SELECTION OF BRAKE MATERIAL

Comparative Braking and Driving Powers Shown by Tests—Asbestos Composition Gives Best Results.

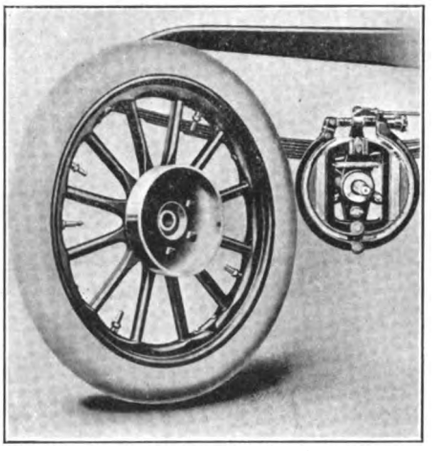
That it requires at least four times as much power to stop a car as it does to set it in motion, considering the averages of positive and negative acceleration, is a fact which when properly assimilated helps the average motorist to gain an added respect for the braking equipment of his car. This surprising testimony to the work which the braking equipment may be called upon to perform was brought out in a series of tests recently conducted by the Maxwell-Briscoe Motor Co., and was supplemented by a trial of various sorts of friction surfaces suitable for brake materials, conducted on the highways in the vicinity of the Tarrytown plant.

The relation between the power required to start a car under average conditions and that required to stop it, is based upon experimental data which has shown that about 300 yards are covered by the average machine before it can gain its full headway from a standing start. But no less than 75 feet will be required to bring the machine to a full stop when traveling at its top speed. From these distances, the ratio of the respective accelerating powers have been calculated.

The deductions from these experiments have led to but one conclusion as to the only proper place for a brake to operate, says an official report of the tests. Since everything between the brake and the wheel must be subjected to this enormous strain, the brake and the wheel must be constructed together; this alone will eliminate the great disproportion of driving strength and braking strain. It is this that has led the Maxwell company to place both the foot and emergency brakes on the rear hubs, the only position where all danger of breakage is entirely done away with, and where the full efficiency of the brake is guaranteed.

The road tests were held near the factory on the morning of Wednesday, September 23. A smooth stretch of macadam road was selected, with plenty of room for getting up speed, and a four-cylinder car with a passenger capacity of five persons chosen, equipped with a standard double external contracting rear hub brake, which is here illustrated. With passengers the car weighed about 2,850 pounds. The first trial was made with the brakes lined with the new asbestos preparation used in the Maxwell cars and with the tonneau empty. The machine was speeded up to 30 miles an hour, and when the road mark crossed the driver's line of vision with the radiator, the brake was applied in full strength. The wheels immediately locked and the car came to a dead stop in 14 feet 10 inches, the distance measured from the line to the rear axles. Again it was tried. This time with the tonneau occupied; the wheels again locked immediately and the car came to a dead stop at a distance of 61 feet 6 inches from the line.

When the brake was thrown the wheels locked immediately and silently, there was no loss of time, undesirable noise, nor slippage. The other materials for brake lining were found to lack several of the most desirable characteristics of the asbestos lining. It was found that when cast iron blocks were used the car traveled about 25 feet before the wheels locked, that during that time the friction gave rise to a disagreeable scraping noise, and that due



ARRANGEMENT OF THE MAXWELL BRAKE

to the delay in the locking of the wheels the car traveled a considerable distance beyond the 61 feet of the asbestos. Hickory blocks were tried, but they too gave rise to the same disagreeable noise, it was found they burned easily and that the car covered approximately 17 feet before the wheels locked. Hickory blocks boiled in parafine showed improvement in the matter of noise and seemed to grip without the jerking experienced with the other two; they were found too to be more immune from combustion than the dry hickory—but they failed to lock the wheels until the car had traveled a distance of a little over 20 feet.

Red fiber, a papier mache product, was found to be better yet in the matter of noise, combustion and slippage, but the 12 feet found necessary to ensure locking the wheels debarred it when measured according to the standard of asbestos. Camel's hair was found most admirable; it was noiseless, it did not jerk, its life was long. But it too required about 12 feet in which to lock the wheels. Cork too was tried With the exception of the asbestos it was the most desirable; its life is long, it was noiseless, it gripped nearly instantly, but the gripping was accompanied by a severe jerking.

The observers therefore ranked the different materials in the following order for general efficiency:

1, Asbestos; 2, cork; 3, red fiber; camel's hair; 4, hickory blocks boiled in oil; 5, hickory blocks dry; 6, cast iron.

Causes of Drivers' Headaches.

Inexperienced drivers and occasionally those who have served quite a long time behind the steering wheel, frequently are annoyed by headaches which result directly from the strain of driving. Contrary to the prevailing impression, these are said not to be caused by the strain of constantly focussing the eyes on the shifting patch of road directly under the nose of the car, so much as by the use of ill-fitting goggles, or perhaps a cap which fits the brow too snugly. Another alleged cause of the difficulty is the use of headgear which is not sufficiently heavy to prevent the constant pouring of a blast of cold air directly upon the frontal bone. In any case, constant and unaccustomed pressure on the temples is quite as apt to be the cause of such uneasiness and pain in the head, experienced by the driver, as the stress upon the visional powers.

Growing Use of "Set Spark" Ignition.

It is stated upon good authority that at least 40 per cent. of the better known French makers have now adopted the "set spark" system of ignition regulation in preference to the use of the variable timing and hand regulation system which is in more common use in this country at this time. The advantage secured in ridding the driver of one of the numerous matters to be attended to in handling the machine. is obvious. The practice is made possible by the use of magneto ignition. The voltage of the magneto current increases with the speed, and the intensity of the spark consequently increases proportionately. This effect is supposed to compensate for the lead which otherwise would be required, so that the regulation is thus made automatic and in direct response to the speed.

Avoiding Looseness in Planetary Gear.

It is a wise precaution to go over the bolts which secure the several sections of a planetary transmission occasionally in order to see that no looseness exists. While the loss of one or more of these bolts might not permit the gear to separate entirely, there is danger that it may so weaken the fastenings as to allow the gears to work slightly out of their proper mesh, or that the remaining bolts be sheared off as a result of being overloaded.

About Refilling the Lubricator Tank.

When refilling the tank of a mechanically actuated lubricator the engine should be stopped. Otherwise there is danger of the formation of air locks with consequent interruption of the feed, if not its complete cessation.

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THE PROBLEMS OF FIRE INSURANCE

Difficulties Attending Fair Adjustment of Cost to Risk on Automobiles and Garages—Fallacies and Absurdities.

Individual gambling instead of rational insurance methods appears to prevail in the writing of fire policies on garages and motor cars, with the result that in the majority of instances the rates are stiff enough to give the gamblers a more than ample surety of profit. The whole subject of this class of insurance is as yet wofully disorganized, and while some agents are busy writing policies at rates that are proving rich dividend payers, a great many companies refuse to touch garage and automobile risks at all, through a fear of gasolene and its vapor that would be ridiculous were it not of effect in keeping up the rates. Consequently, the insurance problem at present is one of most vague and unsatisfactory status, and affords all sorts of pitfalls for the unwary.

The insurance people plead that this field is so new that as yet there has not been sufficient time for any large statistical generalizations on the risks and losses, and that therefore it is difficult to determine any standards or basic rates from which to calculate. A few of the companies have fixed arbitrary bases of calculation, but these are subject to such haphazard methods of being added to for this and that item, as to make it impossible for a garage owner to find out where he stands.

Unfortunately the garage interests are even less organized than the insurance interests in the matter, and about the only representation that they have had before the insurance companies has been through the Association of Licensed Automobile Manufacturers and to some extent through the American Motor Car Manufacturers' Association. In an effort to prevent the National Fire Protective Association from adopting a set of "standard" garage specifications that would be so highly ideal that no practical garage could be built to meet them, Coker F. Clarkson, of the Licensed Association, met the members of the committee having the specifications in incubation and persuaded them to hold up any final recommendation or action until the subject could have a more thorough investigation than had been given it, and further that the garage and motor car interests might have opportunity to present their ideas as to what might be considered a reasonable standard.

The chief evil in the adoption of an impossible "standard" for garage specifications would be that every departure from the "standard" would be made the basis for further additions to the rate, so that the garages might better have no standard at all than one which would present such wide differences from the actual risks as to give an excuse for excessive charges. Particularly is this the case when the insurance companies themselves will not commit themselves to the point of saying that if "standard" specifications" are adopted by the N. F. P. A., they will grant a lower rate to those garages which conform to them.

Inasmuch as the National Fire Protective Association consists chiefly of local boards of underwriters together with architects' associations, building trades organizations and the like, and has no rate making power itself, the dangers presented by its making declarations of what should be standard practice in garages have no corresponding benefits. By earnest importuning Clarkson has succeeded in getting the association to hold off for the present, but he is in need of suggestions and support from the garage and motor car interests for whom he is endeavoring to secure fair treatment.

With a view to proving, if possible, that the average fire risk on garages in New York City is no more hazardous than the ordinary manufacturing risk, Clarkson has kept a fairly complete record of garage fires in New York City for about a year. An estimate of the total net loss as compared with the total premium that would be paid if the rate were the same as on ordinary manufacturing risks, shows the proportion of loss to premium to be about 59 per cent. This estimate would indicate that with practically no excess over the ordinary manufacturing rate, the companies could take the garage risks with safety and profit. Upon presenting these figures to the various insurance agents and general managers, however, he was politely told that they were far from correct, but no authoritative figures were produced to confirm the assertion.

Having obtained the names of practically all the brokers in New York dealing in automobile insurance, Clarkson is undertaking a canvass to learn from each the basis, if any, on which their rates are figured, and to learn, if possible, the proportion of loss to premium on this class of insurance in the past.

"The dangers of gasolene," he says, "have been so advertised and emphasized that many of the men responsible for the rates, through lack of actual knowledge, entertain a wholly unreasonable fear of it. Instead of attempting to base their rates on what actually occurs in the garages throughout the country, they figure on what might happen under unusual and improbable circumstances. The companies that have been bold enough to go after the garage business have not hesitated to demand big premiums, and the garage owners have not been in a position to fight for anything more favorable."

A distinction should be drawn, Clarkson thinks, between framing "standard" construction and equipment specifications and devising standard rules of garage conduct. In attempting the latter, the National Fire Protective Association would be doing a good work, he believes, since there are great possibilities of improvement in the enforcement of garage rules which would lessen the dangers of explosion and fire. It is a felony under the law even to enter shoddy mill with matches on the person, and in other lines of industry where there is a very high fire risk the employes have become trained in taking the necessary precautions, but the free and easy way in which gasolene and fire are juggled in most garages, while proving in its results that gasolene is not half so dangerous as most people suppose, undoubtedly adds to the risk and nullifies to a great extent whatever precautions may have been taken in construction and equipment. Standard rules concerning the use of safety cans, the extinguishing of car lights while the tanks are being filled, the provision of sand pails and pans, the forbidding of smoking, and similar regulations all might be incorporated in a standard set of rules for universal enforcement, whereas a standard of construction for garages would work great injustice in many cases owing to the widely differing conditions that obtain in various localities.

Even an extremely superficial inquiry into the present status of automobile and garage insurance and the regulations that are either enforced or proposed in connection with it, discloses many contradictions and absurdities. Most cities have regulations that forbid cars coming out on the streets after dark without lighted lamps, while proposed insurance regulations would forbid the lamps being lighted inside the garage, or even at the doorway. Automobiles are required to be emptied of their gasolene for transportation on some ferries and railroads. Experience proves that a full tank of gasolene presents no danger of explosion, while an empty tank, containing only gasolene vapor and air, has great explosive possibilities. The probable ground for demanding the emptying of the tanks, however, is that in case of collision the full tanks might be punctured and give a too ready flow of fuel if fire were present While the presence of gasolene in garages is the subject of special regulations and permits, yet a Massachusetts jury recently decided that no permit is required, no matter how great the amount of gasolene, provided that it is kept in the tanks of the cars themselves.

Policies on cars, which have been made a specialty by several companies, are examples of ingenious construction, and the methods of determining the risk are as yet very arbitrary. Among the latest proposals is the suggestion that risks should be calculated largely according to the make and model of the machine to be insured, it being claimed that certain makes, by reason of their strength and the superior arrangement of their fuel tanks, together with their very sparing use of wood, are entitled to a lower rate than others where

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the tanks are more exposed and the body work is chiefly wood. It is even claimed that tabulated lists of the losses in the past disclose some makes as being far less liable to fire damage than others.

The clause exempting the insurance companies in cases of "fire originating within the vehicle" has been the subject of much recent litigation where machines have burned on the road as a result of collision, the spilled gasolene taking fire from the lamps. With but little variance in the circumstances, the courts have decided both for and against the policy holders, respectively, so that in situations of this kind the holder of a policy can have no certainty as to how he will fare.

The apprehensive way in which the different phases of automobile fire insurance have been taken up by the companies and their agents, resulting in high rates and arduous exactions, has not as yet changed to a broader method such as obtains in the older and familiar lines. With the exception of the work done by Clarkson in representing the Association of Licensed Automobile Manufacturers before the National Fire Protective Association and some of the rate making bodies, and the interest taken by the American Motor Car Manufacturers' Association, little organized effort has been made by the interests most affected, to get as favorable terms as might be obtained by a united and determined resistance to premiums based on fear rather than fact. For the insurance companies it may be said that they have been obliged to tackle the subject as best they could, with very little enlightenment or assistance from the automobile industry, the result being that whatever the industry has failed to contribute in information it has paid for in money.

Substituting Motor Cars for Milk Trains.

Wherever the transportation problem is proving particularly troublesome, handlers of large volumes of merchandise are learning to grasp the possibilities of the motor vehicle, and it is significant that where such efforts are made in a careful and thoroughly practical manner, the experiment seldom proves unsatisfactory. A recent instance in point is the adoption of a trial equipment of motor trucks by the German Milk Dealers' Association. Just at present wholesale milk deliveries are badly disorganized as a result of delays to trains which are often sidetracked, or even lost to the schedule, while the big dairy centers are so far off the railway lines in some instances as to occasion tremendous losses through slow haulage to the shipping points. A double equipment consisting of two heavy lorrys and trailers, is to be put to work, with the expectation that it will be able to move no less than 5,000 gallons of milk per day over its route between Anhalt and Berlin. If it proves successful, a proposal to adopt the same method in all the big German milk centers will be made.

NOW ONE OF THE BIG INDUSTRIES

Reeves Presents Figures Showing Growth of American Automobile Interests—Demand Equals Production.

From time to time there are launched at the heads of the reading public sundry figures as to the magnitude and prosperity of the automobile industry, many of which, it is sad to relate, are without proper backing of authenticity. Of the two most complete sources of reliable data on this subject, however, one was tapped last week, when on the occasion of the opening of the new term of the school of automobile instruction which is maintained by the Young Men's Christian Association in New York City, Alfred Reeves, general manager of the American Motor Car Manufacturers Association, discussed the strength of the industry by way of encouraging a swarm of potential candidates for positions in its numerous branches.

"It is estimated," he said in part, "that the present capital of the automobile business is about $105,000,000, with an additional $36,000,000 in kindred trades, and $57,000,000 more in garages and retail sales rooms, making a total of $198,000,000. According to latest figures obtainable, there are 58,000 employes in the automobile factories in this country; about 29,000 employed indirectly in the making of parts, while there are 21,500 in the sales and garage establishments. This gives a total of more than 108,000 employes.

"The records at the office of the American Motor Car Manufacturers' Association show that there are in this country 253 builders of automobiles, of which at least 123 are beyond the experimental stage, and are placing practical cars on the market. There are not less than 500 different trades involved in automobile manufacture, running from leather, varnish, broadcloth and buttons, to steel, brass and rubber.

"Although the importation of automobiles is fast decreasing, it is a fact that some $28,000,000 worth of foreign cars have been sold here. The trend is now going the other way, and the export trade of the American maker is increasing rapidly. It doesn't take very much of an imagination to figure that with our business methods, our unexcelled mechanics, our wonderful automatic machinery and our perfect factory systems, America will continue its lead in motor car building, both here and abroad.

"With 52,000 cars as a conservative estimate for this year, it is safe to say that 175,000 automobiles have been sold here during the past eight years. They are big figures, but it is a big industry.

"During the past year 13,980 cars have been registered in New York City alone, making a total registration since the law went into effect of 63,338 cars. Above all, and of great interest to those about to enter the trade, is the fact that 9,386 new chauffeurs were registered during the current year. One cannot be a pessimist on the automobile's future in the face of such figures. . . . .

"Factory reports indicate a tremendous production in motor cars for next year, running from machines that range from $150 for the school boy to $11,000 cars for the luxury-loving and speed-fascinated millionaires. . . . . Yet there is no reason to believe that next year will see an overproduction, provided good cars are made and sold at reasonable prices. The tremendous buying power of this country is evidenced in a score of ways, and particularly by the absorbing of motor cars during the past two years. Possibly next year's production will reach 75,000 cars. Yet we well know for the past five or six years a million buggies a year have been made and sold by the carriage people. Just what becomes of them no one has been able to say, but the buggy manufacturers continue to turn out these great quantities of horse-drawn vehicles. They are now turning their attention to motor vehicles, for the farmer is demanding the more modern type, for which he is quite ready to pay the price. One of the largest concerns of agricultural machinery plans to make 20,000 cars next year, yet this will hardly give them one apiece for their agents throughout the world.

"Taxicabs are fast coming into use, and there is hardly a city of tny prominence throughout the country which will not have occasion to use them. . . . . Last Year, in Paris, I was told that some 3,500 cabs were in use, which now has increased to almost 5,000. There are 1,500 cabs in London, and the number is constantly increasing. . . . . Last, but not least, we have the unlimited field of the commercial vehicle. . . . . As there will be no horses to take up room, and as they will carry twice the load and travel at twice the speed, it will be like widening the streets threefold."

How Racing Consumes Lubricants.

Some idea of the quantities of lubricant which are used in connection with the running of a great racing event such as the Vanderbilt Cup contest, may be gained from standing quietly on the lee side of the course while the competing cars roar by. A more definite idea, however, may be gained from the statement of one well known manufacturer who contributed to the success of the contest in question, that the nine makers who used his product took delivery of an average quantity of about 100 gallons each. The fact that the total deliveries at the various training camps along the course, amounted to more than 900 gallons, gives an inkling as to the probable outlay involved in this as well as other respects, in contests where the feature is great speed.

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22,000 MILES WITHIN 24 HOURS

How Chalmers-Detroit Made Remarkable Election Day Record—Non-Stop Run Covers Many Cities.

Twenty-two thousand miles within 24 hours is the remarkable Election Day achievement which must be set down to the credit of the Chalmers-Detroit "30" car. It was run under "non-stop" conditions and further distinction must be added to the performance by the fact that though the accomplishment of this tremendous mileage would require an apparent average speed of about 916 miles per hour for the 24 hours, theoretically at least, not a single speed law was broken. The apparently paradoxical result was as a mater of fact, brought about by the ingenious device of allotting the task to about 108 demonstrating cars located in as many agencies throughout the country. Though each of the cars went but 200 miles or a little more, the total was a creditable performance for the car as a class, since all machines were duplicates; and the "record" is fully as legitimate as many that have been held up for distinction as 24 hours track performances.

All of the cars in their respective cities, carried disinterested observers, in most cases members of the press, to note the performance of the machine at all times. The self-imposed conditions were that not one of the motors should be stopped throughout the distance and that no repairs should be made to the cars, other than tire work.

In New York, the car from Carl Page's garage with William Knipper at the wheel, made an early trip to South Norwalk, Conn., and several subsequent runs to Yonkers and Mount Vernon. A Motor World man who was carried as observer for a good portion of the trip, was able to report that that particular car "ate up" its 201 miles with remarkable smoothness, more than justifying the claims of its makers in respect to power and speed. Twelve gallons of gasoline were required for the run, an average of 16¾ miles to the gallon, and the quantity of lubricating oil was limited to 3 gallons. No adjustments were required, and judging from the limited sections of the performance witnessed, the entire 22,000 miles must have been accomplished with little or no effort. Interesting disclosures as to the actual totals of distances, consumptions and costs are promised in a complete report of the undertaking soon to be issued.

Jackson, Mich., Greets Bangor, Me.

Carrying greetings from the Mayor of Jackson, Mich., to the Mayor of Bangor, Me., a Jackson touring car with F. L. Homes, general manager of the Jackson Automobile Company and three companions, is making a "non-stop" run between those two cities. The start was made on Monday, October 24, and the route laid out includes Detroit, Toledo, Cleveland, Buffalo, New York and Boston, a distance of 1,600 miles. Latest reports state that the car passed through Rochester in good shape, in spite of continuous rain and bad roads. The engine had not been stopped up to that point, according to observers, chiefly newspaper men picked up along the route. This car is the 1909 model "H" four-cylinder, 30 horsepower type, having a 4½-inch bore, 4½-inch stroke, motor rated at 30 horsepower, three speeds selective change gear, multiple clutch and bevel gear drive. It has a wheelbase of 110¾ inches and weighs with its five-passenger body, 2,400 pounds.

How Maxwells Parked at the Cup Race.

Among the numerous parking arrangements provided at the Long Island Motor Parkway in connection with the Vanderbilt Cup contest of last week, perhaps none was



more elaborately carried out than that of the Maxwell-Briscoe Motor Co., which included in addition to the space provided for the cars, lavish arrangements for the entertainment of the guests. Quite an interesting feature of the scheme, however, was the use of electric lights for illuminating the space and the tent. Current for this purpose was derived from a private and isolated plant.

While there is nothing particularly novel in the use of automobile engines for power purposes, even when they are utilized without being removed from the chassis, the production of current for electric lighting purposes in such a way as this is rather out of the ordinary. As will be seen from the picture, the arrangements were neither elaborate nor difficult to provide.

For the transportation of the mails between the various postal sub-stations and the railway in Nuremburg, Germany, three 16 horsepower, and six 28 horsepower vans are to be put in service on the first of next month.

FIXING FOR MEDDLESOME VISITORS

Innocent Tricks that are Better than "Hands Off" Cards—Indiscriminate Handling Rendered Harmless.

Preparing an automobile for service as a show car on the salesroom floor involves many little tricks of the trade. One of these consists in loosening the steering gear mechanism so that the steering wheel has considerable back lash and can be turned freely for quite a distance without communicating any motion to the knuckles or the front wheels. The reason for doing this, as given by the demonstrator for a New York salesroom, is that the majority of people who come into a salesroom to see a new car always give the steering wheel a yank or two, and a loosening of the mechanism saves a great deal of unusual and unnecessary strain, besides giving us a loophole for arguing the merits of the car.

"Few people can resist the temptation to handle the steering wheel," he said, "and when a machine is standing still it takes considerable effort to make the front wheels turn. In standing beside a car and tugging at the steering wheel nearly everyone will pull with all their weight if the wheel does not turn easily. Of course, this brings an awful stress on the pillar and the connections. Strangely enough if the wheel be loose enough to turn easily, most of those who take hold of it are satisfied, even if it does not turn the front wheels. Once in a while somebody will comment that there is considerable play, but it is easy to show that it exists for a purpose. In fact that very opening permits us to expatiate on one of the particular points about our steering gear and to make clear how our construction makes it possible to effect a perfect adjustment of the gear no matter how much wear it has.

"Everybody likes to handle the change gear mechanism, too," he added, "and in order to make it is easy and satisfactory for the experimenters we generally try to arrange the lay of the gears so that changes can be made just as the car stands. An easy shifting of the gears creates a very favorable impression with many people. There is an art in preparing a car for showroom purposes. To keep the machine looking well it must be roped off to prevent anyone sitting in the front seats but must be free in access to the tonneau. Small pads placed at suitable points along the running board will protect the latter from the wear of dirty shoes and boots that rest on it as their owners lean against the car and discuss its merits. Unless a car is properly prepared and looked after, two weeks in a busy showroom will do it more harm than two months of ordinary service."

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GRAND JURY URGES IMPRISONMENT

Drastic Presentment Made to Kings County Court—Stricter Enforcement of the Automobile Law Demanded.

Declaring that from facts presented to them it would appear that the motor vehicle law is constantly being set at defiance and that violators are not adequately punished, the Kings County Grand Jury in a presentment handed up to Judge Dike in the County Court in Brooklyn early this week, recommended a more strict application of the clause prescribing the penalty of imprisonment. This phase of the law has been allowed to become a dead letter, it was claimed, with apparent hostility.

"Our attention has been called to the fact that the press of this county are continually reporting cases where the residents are being maimed, injured and killed in the streets of our great city, as the result of constant violations of the Motor Vehicle law," says the presentment.

"We called upon the Clerk of the Court of Special Sessions to appear before us and supply data showing the findings of that court in such cases covering the period from September 1, 1907, to September 30, 1908, with the following result:

"During that time 416 cases came before that court for violation of said law. The court appears to have inflicted a fine of $50 in four such cases, a fine of $25 in 11 cases, a fine of $20 in 11 cases, a fine of $15 in one case, a fine of $10 in 15 cases, acquitted 15, dismissed 30, sentence suspended on 126, bond forfeited on two, for motion 26, trial date, 125; total, 416.

"You will note from the above that not a single offender appears to have been punished with imprisonment as a result of having violated that law.

"The findings of that Court appear to prove conclusively to us that the law in question has been allowed to become a dead letter. The lives of our citizens being in constant jeopardy as the result of such violations, we would recommend that the spirit of the law be revived, and that in flagrant cases or where a person has become an habitual offender that the culprit be punished with a sentence of imprisonment. Where a chauffeur or owner is found to be a frequent offender we would recommend that they not only be sentenced to prison, but that in addition to this that their license be revoked."

Dynamiting of Scorchers Suspected.

Dynamite traps to blow up speeders are thought by the Chicago police to be in existence in the Windy City's suburbs. A big red touring car was blown to atoms a short time ago, and no traces of the three men occupying it could be found. The only clew to the identity of the machine was the license tag, bearing the number 2923 Illinois, registered in the name of a Chicago millionaire. The latter had taken his car from the garage the night before, and his continued absence lends support to the police theory that he met death in a dynamite speed trap.

Rochester Club Urges Careful Driving.

"Drinking and driving a car should not be indulged in on the same day; if you must drink, do your driving in a hack," says Secretary Van Tuyle, of the Rochester Automobile Club, who thinks he ought to know. Van Tuyle's sentiments were expressed in connection with a resolution passed by the club on Saturday, 24th ult., regarding stricter observance of the traffic ordinances. The resolution urges members to slow down before turning corners; not to dart ahead of vehicles in a crowded street, and to stop or slow down when appoaching persons who appear to be confused, et cetera. It is insisted that if members will follow the suggestions outlined, fewer accidents will be reported. What the resolution did not say about looking upon the wine when it is pink, led the secretary to cover this ground himself.

Learning How to Stop the Car.

As his first and most important rule of automobile safety for inexperienced drivers, Winthrop E. Scarritt proposes: "Learn to stop your car." The rule is meant in a deeper sense than merely to know how to stop the car. As Scarritt explained in an address at the opening of the Y. M. C. A. Automobile School, in New York City, last week: "The young driver should repeat over and over again, What shall I do to stop quickly? Push out that clutch, pull on that brake. By constant repetition and practice one learns finally just what to do without lacking time to think. You have all day in which to start your car; your life may depend some day on how quickly you can stop it."

Oil Drippings May Cause Lawsuit.

Oil that dripped from automobiles upon the pavements at a prominent corner in Utica, N. Y., is alleged to be the cause of a horse's death recently, and the owners of the horse are threatening to sue the city for contributory negligence in not enforcing the ordinance designed to prevent machines from dripping lubricants on the roadway. The horse slipped on the oily pavement and broke its leg, so that it had to be killed. The prospects of suit have stirred the police to a strict enforcement of the ordinance.

Court Finds New Form of Insanity.

When a man gratifies his love of automobile rides by renting machines when he cannot afford it, he is held to be insane by the courts in Cleveland, O. A traveling salesman, Ellis Fischer, has been sent to Cleveland's insane asylum as a result of a mania in this direction.

BUFFALO RIGIDLY ENFORCES LAW

Prosecutions Under the "Lights" Section Develop Some Interesting Points—Status of Idle Cars.

Motorists of Rochester, N. Y., are more or less exercised just at present over the administration of that section of the state automobile law which relates to the use of lights at night. George J. Bauer was arrested last week charged with neglecting to show a red light on the rear of his car. When stopped by patrolmen Louth and Niedert, he said that as all of the lights on the car were burning when he left the garage he supposed they were still in proper order. The officers, however, claimed that they could not see the tail-light because the bulge of the tonneau cut off its rays. When fined by Judge Chadsey in the police court, Bauer gave notice of appeal. The case is the outcome of a campaign of special activity recently undertaken by the Rochester police in enforcing the lamp law. In addition to the question of the position of the lamp as determining whether or not the motorist is complying with the legal requirement, another point which developed in connection with other cases brought simultaneously with that of Bauer was as to whether a car standing in front of its owner's house is in use, technically speaking. One owner when brought into court, contended that he had to extinguish the light on his car to keep children away, and that as it was stationary no lights were required.

Massachusetts Association Chooses Bliss.

Members of the Massachusetts State Automobile Association, at a meeting held last week, elected officers for the ensuing year. A. E. Bliss, of Malden, is to be the next president; A. D. Converse, of Winchendon, vice-president; John C. Kerrison, of Boston, secretary. For the latter office, a number of the members wanted to elect the present incumbent, James Fortesque, but he flatly refused to accept the re-nomination. Chairmen of committees were selected as follows: Legislative, A. D. Converse; Good Roads, A. D. Chase; signboard, John P. Coghlin.

Middlesex County Motorists Form Club.

New Brunswick, N. J., boasts a new motor organization—the Middlesex Automobile Club, which was launched with 24 charter members last week. Its wheels were set in motion by W. C. Crosby, acting president, and H. A. Bonnell, secretary of the Associated Automobile Clubs of New Jersey, and it will be represented in the councils of the latter body as well as affiliating with the A. A. A. in the near future. L. A. Voorhees, of New Brunswick, was appointed temporary chairman, and Arthur W. Clark, temporary secretary.

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ADAPTING SHIPS TO MOTOR CARS

More Room 'Tween Decks Made Necessary by Increase of Automobile Touring—One Line Meets the Demand.

That the greatly increased use of American cars by motorists touring abroad has made it necessary to alter the arrangements of the steamers of at least one of the great trans-Atlantic lines is the surprising fact disclosed by a letter from the designing and construction department of the line in question to a prominent American maker who is credited with producing from 30 to 40 per cent. of the cars which are used in this way. The steamship company states that when Americans first began taking their cars abroad for touring purposes, they were content to land at Southampton, Cherbourg or Bremen. Now, however, many prefer to land in Italy and then tour northward, embarking for the homewtrd voyage from one of the northern ports. The distance between decks of this company's Mediterranean steamers was not sufficient to care comfortably for the crates used for the large suburban or entirely enclosed cars and now on all steamers of their line the distance between decks has been increased nine inches. This additional space will allow easily for the largest enclosed cars.

Compels Trip from Coast to Coast.

In a courageous and, thus far, apparently successful effort to regain lost health, Mr. and Mrs. H. A. Hover of Hover, Washington, two members of the Spokane Motor Club, arrived in New York City yesterday (Wednesday) after a long trip from the Western Coast in a 2 cylinder Maxwell car. On April 11 last, the outset of the tour, which is to take them around the globe, Mr. Hover dipped his tires into the Pacific Ocean at Tiajuana, a small Mexican village, and upon reaching the Metropolis, waded the car into the Atlantic, joyously completing the first long lap of the expedition, made entirely under the car's own power.

From New York the Hovers will sail for Algiers and penetrate through Egypt and Tunis, into the Sahara Desert and thereafter tour every country in Europe, and a good part of Asia, until the winter of 1911, when the homeward trip will be commenced, taking in the Philippines, Australia, New Zealand and Hawaii, motoring whereever possible. From the latter place they will sail for San Francisco in the winter of 1912. It is expected that more than 75,000 miles will have been covered by that time.

Motor Plow for Army Entrenchment.

One of the most recent acquisitions of the French War Department is a motor plow destined for use as a trench excavator for use in field manouvers. While ordinarily horse-drawn, when in action it is propelled by its own power, a 100 horsepower four cylinder motor being used for the purpose. A very heavy fly wheel which is driven directly by the motor carries four steel blades which perform the function of excavators. Other elements of the device are a plowshare, spades and a harrow. The system is the invention of a young engineer named Riester.

Helping Their Mail Carrier Buy a Car.

Instead of saving his pennies to buy a machine for himself, a negro mail carrier on rural route No. 1, of Argenta, Ark., has hit upon a much better scheme, which consists of having his patrons buy it for him. Two months ago the carrier, F. W. White, made a demonstration run in a motor buggy and completed the delivery on his whole route inside of three hours, where his horse and wagon method takes a day. Following this he mailed a circular letter to everyone on the route, asking them to contribute toward the purchase of the buggy, in return for which they would benefit by the improved service. So far he has received $475 and only needs $100 more to buy the vehicle.

Peanut Crop to Boom the Motor Car.

Peanuts, which long have been used as an example of cheap insignificance, loom up with considerable importance in the automobile business of Texas, according to W. F. Reynolds, southern representative for the H. H. Franklin Mfg. Co., of Syracuse, N. Y. "In Texas," he explains, "the forecasting of business for the coming season is now based to quite an extent on the outlook of the peanut crop. In one section a yield of 150 bushels per acre is reported, giving the peanut a lead over all other crops in that vicinity. If the peanut crop is good, the automobile business will feel the resulting prosperity."

Automobiles for Funeral Corteges.

Because San Antonio's graveyards are almost full, a new cemetery has been laid out, some distance from the Texas city. It is difficult of access, however, because the street car company has refused to extend its tracks to the new location, and so Mayor Bryan Callaghan has called upon all the automobilists of the city to assist whenever there is a funeral to the new place, by renting their cars to the mourners at a fixed rate. Being made as a call to civic duty, the mayor's request has met with a ready response.

More Municipal Cars for Chicago.

Three new Mitchell cars have been purchased for the use of the Building and Boiler Inspection Departments of the city of Chicago. Comptroller Walter L. Wilson ordered these purchases after a personal inspection of the company's factory, although he had been urged by his city hall associates to buy higher priced cars than those he selected.

INTERNATIONAL BUREAU OF ROADS

Paris Congress Establishes Permanent Body to Collate Information—Next Congress to Meet in 1910.

Aside from a bulky set of resolutions indicating the consensus of opinion as to the best methods of treating the problem of highway construction, the most important outcome of the recent International Roads Congress in Paris was the establishment of a permanent international bureau comprising one or more delegates from each country represented in the congress which will enable the results of the experience of road engineers the world over to be collated and put into useable form. In connection with the resolutions emphasis was laid upon the necessity of using great care in the construction of foundations.

A layer of concrete from four to six inches thick is especially recommended in the resolutions. As for the road itself, it should be composed of homogeneous materials which are hard, tough, resisting and not slippery. The use of tar, bituminous products, and deliquescent salts are effective for reducing the dust, but at present the results are far from permanent, and further experiments with these and similar compounds are invited. Tarring, properly carried out, is declared to be a remedy against dust, and to a certain extent a preservative against the wear and tear caused by all traffic, especially by fast motor vehicles. As for the plan of mixing the tar with the road material, no definite opinion was announced. Where motor traffic is not very heavy, it is considered that the present system of road making is sufficient, if it be carried out carefully and with proper materials. Roads should have the least amount of camber possible with easy drainage of rain water. The outside of curves should be slightly raised, and there should be no obstruction to the view at curves or at the intersection of roads. A uniform system of marking distances should be devised, and for the benefit of international automobilism a uniform system of road signals should be adopted. These should be limited to four kinds, respectively warning against obstruction, including dangerous hills, corners, level crossings—by night as well as by day—and dangerous cross-roads. It was resolved that the next Congress shall be held in Brussels in 1910. Incidentally, it was the general opinion that the automobile movement should not be censured for causing excessive road wear. As responsible for new traffic conditions, it was decided that where necessary, new methods should be devised to meet them.

"The A B C of Electricity." Price, 50c. The Motor World Publishing Co., 154 Nassau Street, New York City.

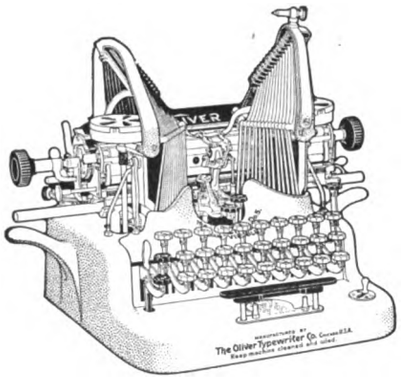
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This amazing offer—the New Model Oliver Typewriter No. 5 at *17 cents a day* is open to everybody, everywhere.

Is's our new and immensely popular plan of selling Oliver Typewriters on little easy payments. The abandonment of *longhand* in favor of clean, legible, beautiful *typewriting* is the next great step in human progress.



Already—in all lines of business and in all professions—the use of *pen-and-ink* is largely restricted to the writing of *signatures.*

Business Colleges and High Schools, watchful of the trend of public sentiment, are training a vast army of young people in the use of Oliver Typewriters.

The prompt and generous response of the Oliver Typewriter Company to the world-wide demand for *universal typewriting,* gives tremendous impetus to the movement.

The Oliver, with the largest sale of any typewriter in existence, was the logical machine to take the initiative in bringing about the *universal use* of typewriters. It *always* leads!

Save Your Pennies and Own an Oliver

This **"17-Cents-a-Day"** selling plan makes the Oliver as easy to **own** as to **rent.** A man's "cigar money"—a woman's "pin money"—will buy it.

Clerks on small salaries can now afford to own Olivers. By utilizing spare moments for practice they may fit themselves for more important positions.

School boys and school girls can buy Olivers by saving their **pennies.**

You can buy an Oliver on this plan at the regular catalog price—$100. A small first payment brings the machine. Then you save 17 cents a day and pay monthly.

And the possession of an Oliver Typewriter enables you to **earn money to finish paying for the machine.**

Mechanical Advantages

The Oliver is the most highly perfected typewriter on the market—hence its 100 PER CENT. EFFICIENCY.

Among its sources of conveniences are:

—THE BALANCE SHIFT
—THE RULING DEVICE
—THE DOUBLE RELEASE
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—THE AUTOMATIC SPACER
—THE AUTOMATIC TABULATOR
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—THE ADJUSTABLE PAPER FINGERS
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The Oliver Typewriter turns out more work—of better quality and greater variety—that any other writing machine. Simplicity, strength, ease of operation and visibility are the corner stones of its towering supremacy in

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Can you spend 17 Cents a Day to better advantage than in the purchase of this wonderful machine?

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equipped on a Stock Car, 60 H. P. Isotta Fraschini, finished second, a few seconds behind a specially built 120 H. P. Racing Car

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The Week's Patents.

894,676. Pneumatic Tire Protector. Rufus A. Mason, New Market, Iowa. Filed Sept. 9, 1907. Serial No. 392,019.

A pneumatic tire protector, comprising a series of plates having formed therein oppositely disposed apertures between which and the adjacent edge of the plate the metal is offset to form recesses or depressions on the inner sides of the plates, and a series of links adapted to be engaged to said apertures and depressed portions of the plates, whereby said links form projections or obstructions on the outer surface of the protector, while the inner surface of the latter is smooth or unobstructed, substantially as described.

894,709. Changeable Speed Gearing. Walter Scott, Sheridan, Wyo. Filed Nov. 26, 1907. Serial No. 403,892.

1. A changeable speed gear comprising a driven shaft, a plurality of concentric gear wheels secured to the said driven shaft, a driving shaft at a right angle to the said driven shaft, a plurality of normally loose pinions in mesh with the said gear wheels on one side of the axis thereof, a normally loose reversing pinion in mesh with one of the said gear wheels on the other side of the axis thereof, clutch mechanisms for engagement with the said pinions and mounted to slide on and to turn with the said driving shaft, shifting levers for shifting the said clutch mechanisms, pins fixed on sundry of the said shifting levers, spring-pressed swing arms pivoted on the remaining shifting levers, each swing arm carrying a pin, a controller shaft, and cam arms radiating at different angles from the said controller shaft and adapted to engage the said pins to actuate the corresponding shifting lever.

894,719. Gearing for Motor Vehicles. Frank Beemer, Philadelphia, Pa., assignor to Standard Roller Bearing Company, Philadelphia, Pa., a Corporation of New Jersey. Filed June 19, 1907. Serial No. 379,741.

1. In motor vehicle gearing the combination of a driven gear wheel, bearing supports for the same, and a pair of cam faced collars whereof one is pivoted with a latch and the other with teeth whereby the gear wheel may be shifted and held in proper position, substantially as described.

894,750. Road Vehicle Wheel. John Slee, Earlstown, Newton-le-Willows, England. Filed March 18, 1907 .Serial No. 362,985.

1. In a wheel, the combination with the felly, of a retaining ring on each side of and projecting beyond the felly, segments of compressible material between the rings and free to expand inwardly toward the felly and bolts passing through the felly and rings to cause the rings to laterally compress the segments, the inner faces of the rings which bear upon the segments being annularly grooved.

894,751. Tire Protector Holder. Frank O. Slanker, Pomona, Cal. Filed Dec. 20, 1907. Serial No. 407,317.

1. A tire protector comprising an annular rim provided with headed projections from its sides, opposite annular guard plates slotted to removably embrace said projections and extended inward to form a guard inclosing a portion of the spokes of a wheel intermediate of said rim and the hub thereof, and a yielding packing disposed at the opposite inner faces of the central opening in said plates to surround said spokes.

894,775. Sparking Device for Explosive Engines. Charles R. Greuter, Wilkes-Barre, Pa., assignor to Matheson Motor Car Company, Wilkes-Barre, Pa., a Corporation. Filed April 25, 1907. Serial No. 370,276.

1. A sparking device comprising a fixed and a movable electrode, a resilient spring connected to the movable electrode, oppositely disposed yielding members acting to hold the movable electrode normally out of contact with the fixed electrode, a cam located in operative relation to said spring, and means for shifting said spring to vary the time of contact of the cam therewith.

894,776. Vehicle Wheel. George H. Gruss, Goldfield, Nev. Filed April 18, 1907. Serial No. 368,871.

A vehicle wheel, comprising a hub having a cylindrical sleeve adapted to fit an axle, radial flanges at the ends of said sleeve, each of said flanges being provided with a row of perforations around its outer edge, two radial flanges surrounding the central portion of the sleeve, a resilient packing between said last mentioned flanges, an annular plate between said flanges and surrounding said packing, an inner tire shrunk upon the outer circumference of said plate, eyes carried by said inner tire, a plurality of spiral spring spokes connecting said eyes and the perforations in said first mentioned flanges, and an outer tire surrounding said inner tire and secured thereto, said outer tire having its outer surface provided with a plurality of grooves.

894,800. Power Translating Apparatus. Joseph Sachs, Hartford, Conn. Original application filed Sept. 19, 1903, Serial No. 173,801. Divided and this application filed July 2, 1904. Serial No. 215,092.

1. In a power translating apparatus, the combination with a prime mover and a driven member, of a generator armature, a motor armature, and means by which the shafts of said armatures may be connected whereby the driven member is always operated through the shaft of the motor armature.

894,958. Friction Drive Mechanism for Motor Cars. Charles C. Keyser, Washington, D. C. Filed Dec. 16, 1907. Serial No. 406,710.

1. The combination of a driving shaft and a driven shaft; a carriage slidable upon the driving shaft; a friction gear secured to said carriage; a friction gear secured to the driven shaft and adapted for contact with the first-mentioned gear; a pivoted arcuate guide connected intermediate its ends with said carriage; and means for swinging said guide bodily in one direction to impart a sliding movement to the carriage and the gear secured thereto, and withdraw the latter from contact with the last-mentioned gear.

894,980. Running Gear for Vehicles. George M. Phillips, St. Louis, Mo. Filed May 19, 1906. Serial No. 317,724.

In a running gear for vehicles, an axle; circular cushioned frames having concave peripheries; a circular pneumatic cushion mounted in the concave periphery of each of said frames; a suporting bar arranged above and parallel to the axle; housings carried by the supporting bar and concaved to register with the upper surfaces of the pneumatic cushions; projecting ears mounted upon the outer ends of the housing; a vehicle body; and springs upon which the vehicle body is mounted, said springs being supported by said projecting ears, substantially as described.

895,149. Universal Joint. Maurice E. Blood, Kalamazoo, Mich. Filed May 17, 1905. Serial No. 260,836.

1. In a universal joint, the two forks adapted to be secured to the ends of two shafts, the arms of said forks being perforated at right angles to the shafts; bushings for said arms; a cross formed by two pins, one passing through a hole crosswise through the other, the outer ends of said pins being journaled in said bushings in the forks, said bushings each having a threaded portion projecting beyond the face of the forks; and a grease cup, screw-threaded to fit each of said bushings, substantially as shown.

895,202. Compensating Gearing. David

DOW TUBES
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Are the most economical. Do not deflate when punctured.
DOW TIRE COMPANY,
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E. Ross Brookston, Ind., assignar to Ross Gear and Tool Company, La Fayette, Ind., a Corporation of Indiana. Filed Oct. 27, 1906. Serial No. 340,808.

1. In a device of the character described, a plurality of members, means common to said members for furnishing power for driving the same, means connecting said members whereby they may be driven at different speeds and devices for automatically increasing the driving torque of one of said members as the difference in their speeds increases.

895,205. Water Radiator for Automobiles. Charles F. Schell, Buffalo, N. Y. Filed Jan. 9, 1907. Serial No. 351,556.

1. A tube for radiators formed of a single piece of metal folded upon itself at opposite ends and thence bent at right angles to the folded ends into the form of a tube.

895,222. Multiple-Cylinder Two-Cycle Explosion Engine. Alexander Winton and Harold B. Anderson, Cleveland, Ohio, assignors to The Winton Motor Carriage Company, Cleveland, Ohio. Filed April 13, 1908. Serial No. 426,875.

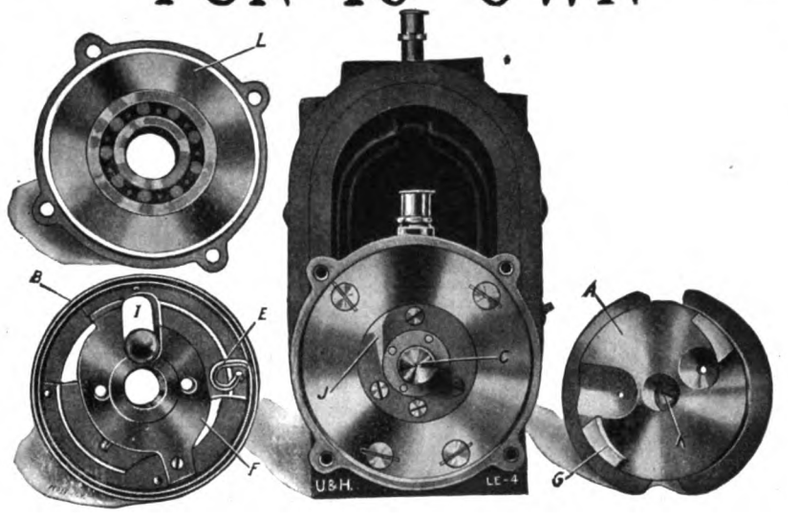
1. The combination with a multiple cylinder two-cycle explosion engine, of a single carburetter having a supply communication for each cylinder, and means for admitting air to said communications independent of the carburetter.

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The distributer is disassembled by taking out three screws, and is cleaned by removing a spring-held cover.

The firing position is determined by inserting a removable pin through the armature casing. You can take the magneto off bodily and replace it yourself without fear of upsetting the timing.

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Tourist $1,500 Roadster $1,250

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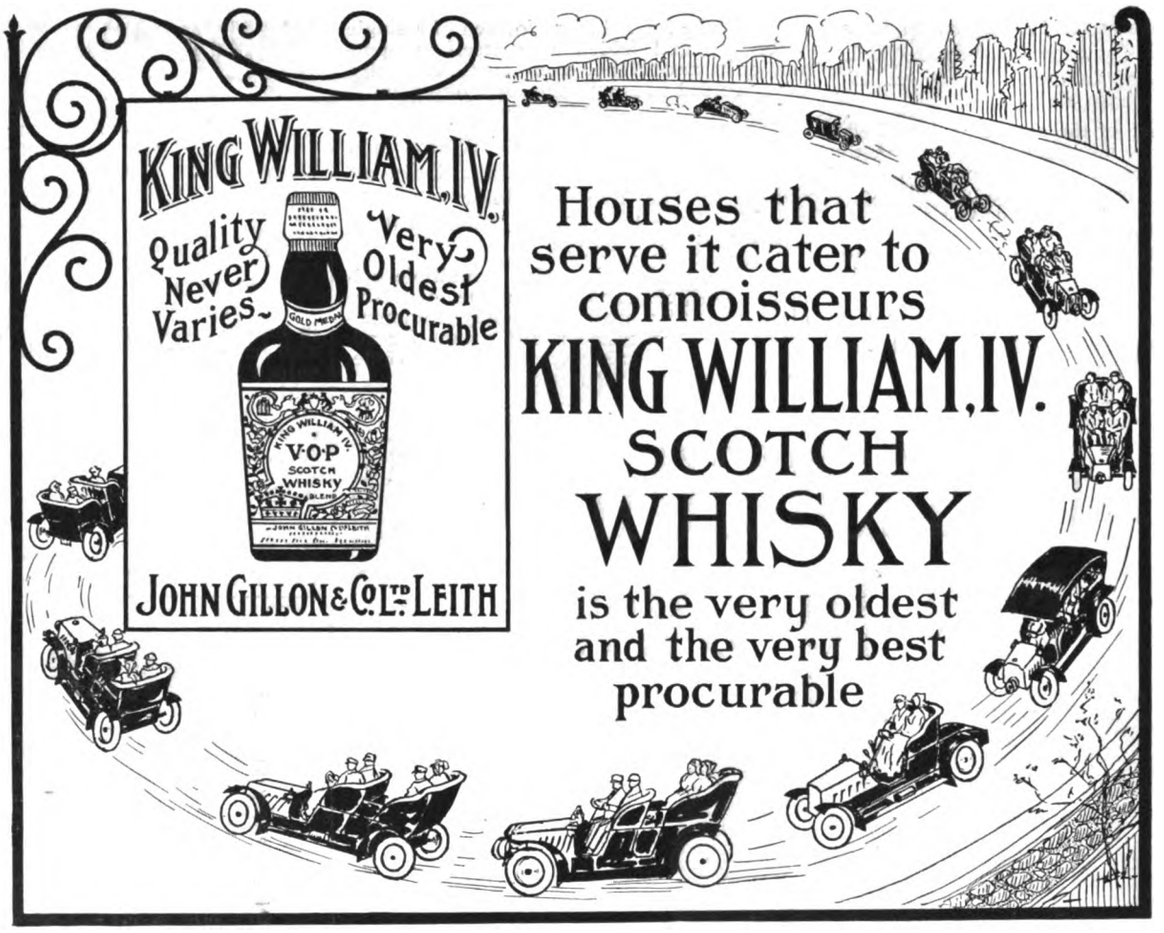
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Change a bone-shaker and a spring-breaker into an easy riding, real automobile in which you can take pride and your passengers comfort. The use of S. S. S. change a near-good car to a real good car and add the finishing touch of luxury to the best cars. Our booklet tells you all about them, and is yours for the asking. Write for it.

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"RAJAH" SPARK PLUGS
IGNITION ABSOLUTELY SURE
RAJAH AUTO SUPPLY COMPANY
BLOOMFIELD, NEW JERSEY, U. S. A.
(Watsessing Station, D., L. & W. R. R.)

When your car wouldn't start it's aggrevating—when it wouldn't stop it's dangerous. Use
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THE MARMON
"A Mechanical Masterpiece"
For catalog, address Dept. 16.
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"They Shoot a Flame."
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THE 28-30 H. P. MITCHELL, $1,500
Includes genuine $150 Splitdorf Magneto (free) and ½ inch larger tires than you get with any other car at this price. To have other cars equipped with these tires you must pay $50 extra. Write for full information to-day.
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that made the run from Philadelphia to Savannah, Ga., March 5th to 18th, through mud up to the radiator, beating all previous records.
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If not, you will be with the minority.

Because more Remy High Tension Magnetos have already been sold for 1909 cars than all our competitors combined can sell. The total to date exceeds 15,000. There must be a reason for this remarkable popularity of the Remy. You will find it in the more than 15,000 Remy Magnetos now in use.

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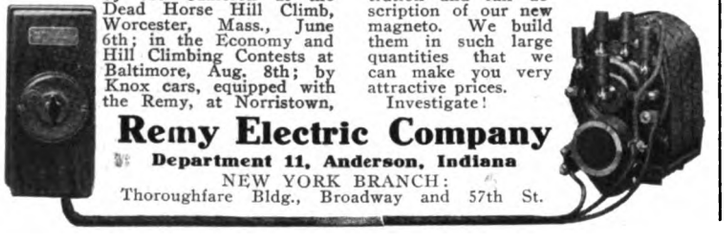
Years of test with all kinds of gasoline motors, under all kinds of conditions, have developed the Remy to the highest degree of efficiency and certainty. And it is the simplest magneto made. No brushes to cause trouble, wear out or be replaced.

We are the Oldest Manufacturers of Magnetos in America

Our magnetos were giving splendid service on motors, gasoline tractors, etc., long before the automobile became practicable. The Remy is used in the 200 h. p. gasoline electric steel cars manufactured for the Union Pacific by the McKeen Motor Car Co.

The Remy is used with the powerful engines that operate the big Gerling gangs of fourteen plows in the West. Its efficiency has been proved in many automobile contests, as for instance, by the Buick cars equipped with the Remy, at Lowell, Mass., on Labor Day, and at Indianapolis, Sept. 18 and 19; by the Cameron at the Dead Horse Hill Climb, Worcester, Mass., June 6th; in the Economy and Hill Climbing Contests at Baltimore, Aug. 8th; by Knox cars, equipped with the Remy, at Norristown, Pa., Hill Climb, June 27th; Arrowhead Hill Climb, New York, July 11th; Shingle Hill Climb, West Haven, Conn., May 27th; Rockville, Conn., Hill Climb, June 30th.

The Remy is used on all the Buick Motor Co., Maxwell-Briscoe Motor Co., Apperson Bros. Automobile Co., Overland Automobile Co., Cameron Car Co., Midland Motor Co., Nordyke & Marmon Co., Kissel Motor Car Co., Olds Motor Works cars—and more Remys are being specified every day for the cars of other makers. Write for illustration and full description of our new magneto. We build them in such large quantities that we can make you very attractive prices. Investigate!



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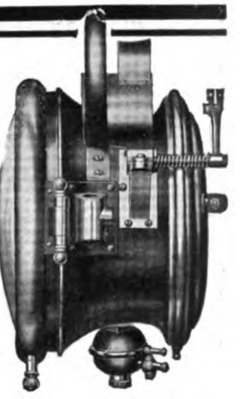
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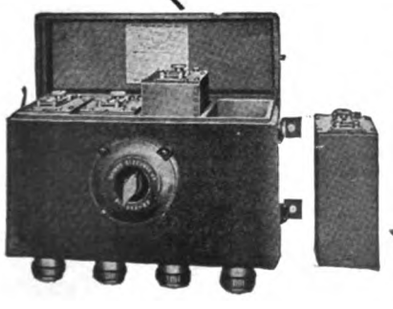
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Their axles are also our work.

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A town car of the most luxurious type. Every detail suggests elegance and refinement. Among the points that contribute to its beauty of design may be mentioned the rounded back and extension front with bent glass windows, a combination giving those symmetrical lines lacking in Limousines not having these features. The luxurious upholstering and interior conveniences leave nothing to be desired in the way of comfort. A dome electric light with switch affords an instant and brilliant light, toilet cases with accessories are at each side, and a speaking tube connects with the driver. Seating capacity of body: five passengers.

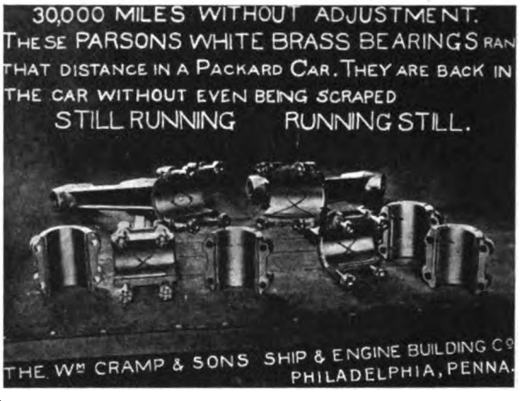
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A Knox Car equipped with a

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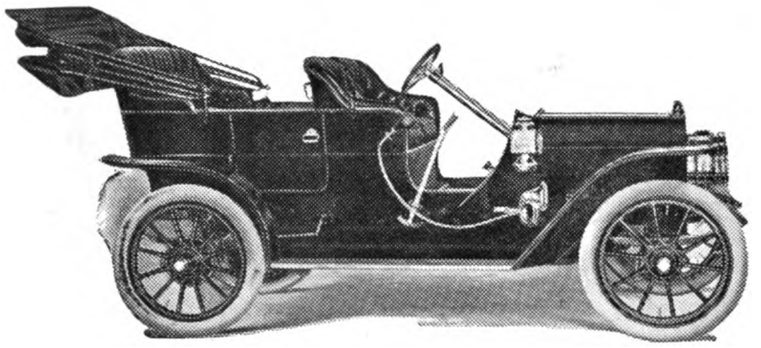
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Model B Touring Car, price $1,250.00. Full equipment, including two gas lamps, two side oil lamps, one tail lamp, generators, horn, tools, jack, pump and batteries. Top, $75.00 extra. Runabout, $1,200.

¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

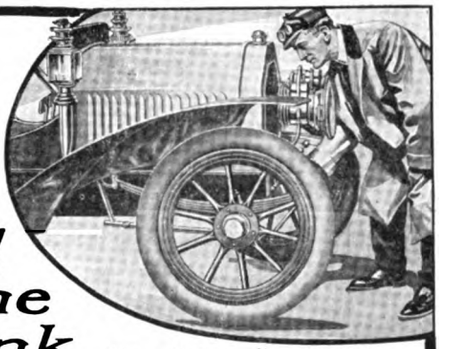
¶ The live agent will find in the Oakland a car that appeals to a large and intelligent class of purchasers and that will justify the fullest confidence.

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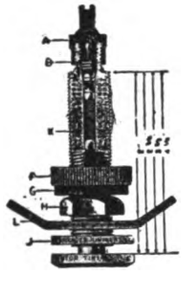


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Wridgway No Glare Shade
which adds to the efficiency of the lamps, and keeps glare from blinding other users of the highways. Can be fitted to any existing lamp.

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drive these cars more miles per dollar cost than any others
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SIDE-WIRE SOLID MOTOR TIRES
THE WORLD'S STANDARD
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A SUPERB LINE OF CARS—
THE JACKSON
"No Sand Too Deep—No Hill Too Steep."
2-Cylinder and 4-Cylinder
Runabouts, Roadsters, Touring Cars,
18 H. P., 24 H. P., 30 H. P. and 36 H. P.
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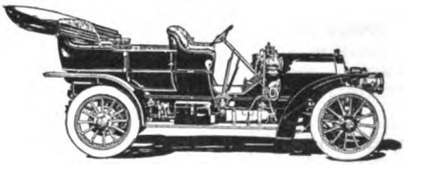
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Complete catalogues now ready.
RAINIER MOTOR CAR COMPANY,
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SUPERIOR Etched Name Plates
We are prepared to furnish you any kind or style as above. We shall be pleased to furnish quotations.
CHANDLER CO., Springfield, Mass.

Type C.
PENNSYLVANIA
"FIFTY"
We had the best car in America. We thought for a long while how to improve it and left it alone. You think that over.



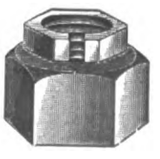
Touring Car, Baby Tonneau or Roadster bodies, with double ignition, $3,000.

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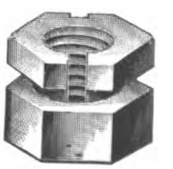
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ONE Quality for ALL Models
ONE Price for ALL Buyers
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FRANKLIN Automobiles
Franklin light-weight construction is stronger than ordinary heavy construction—and does a lot more. Write for catalogue.
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COLUMBIA LOCK NUTS
CANNOT shake loose. They add an important factor of safety and give a feeling of security. Columbia Lock Nuts are the best kind of accident insurance. Used by most makers of the best cars and by leading railroads, etc. Send us a two-cent stamp, size and thread of the bolt, and we will forward a Columbia Lock Nut for it.



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THE OIL THAT GRAPHITIZES
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YOU NAME THE CAR
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CLEVELAND-CANTON VANADIUM SPRINGS
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Why pay high prices
FOR ALUMINUM
Axle Covers, Engine Crank Cases, Transmission Cases.
Have these made of Pressed Steel
JUST AS LIGHT
Stronger. Much Less in Price.
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"Marks of a Good Motor Car"
McKIM COPPER-ASBESTOS GASKETS
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FRICTION DRIVEN
The car which has no clutch to slip—no gears to strip—no grease—no noise.
THE $1350 CARTERCAR
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Gasoline and Electric—for Pleasure and Business
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Aluminum Bodies
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Steel Tires
Full of Air.
Tire expense cut in two.
Cannot Blow Out, Rim Cut or Puncture.
As Flexible as Rubber Anti-Skid.
That part of a tire with a blowout or a rim cut in it will last longer than any other part if encircled by a few sections of steel.
Thousands in use.
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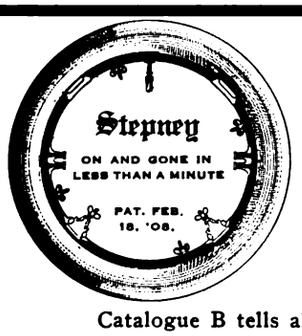
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THE National

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NATIONAL MOTOR VEHICLE CO., Indianapolis, Ind.

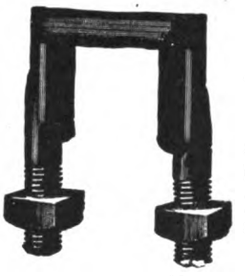


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The Only Genuine Spare Wheel
GET A
STEPNEY
AND KEEP GOING

Agencies in all the large cities.
Catalogue B tells all about it. Write NOW.

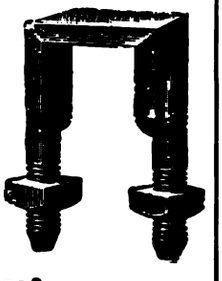
The Spare Motor Wheel of America, Ltd.
Main Office: 236 Michigan Ave., Chicago

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Satisfaction Guaranteed

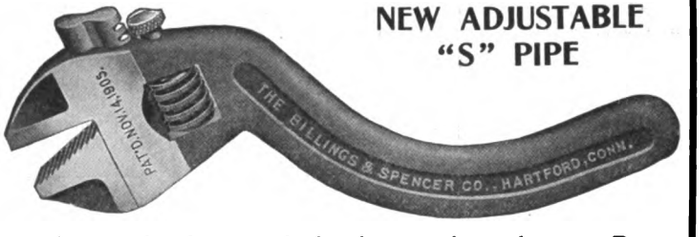
Thousands of our Spring Clips are now in use, having been supplied to the leading automobile manufacturers.



Have you secured our prices?

THE M. SEWARD SONS COMPANY, New Haven, Conn.

NEW ADJUSTABLE "S" PIPE



A very handy wrench for inconvenient places. Drop forged steel throughout, parts carefully hardened, and are interchangeable. Has patent nut locking device at side.

Write for new circular.

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For Automobile Bodies, Dashes, Guards, Bonnets, Battery Boxes, Drip Pans, Mufflers, Etc.

STRONG—DURABLE
SCALELESS—RUSTLESS
SMOOTH—PAINT ADHERES FIRMLY

A Metal That's A Time and Money Saver

THE STARK ROLLING MILL COMPANY, CANTON, OHIO

Model B—Brush Runabout

A CAR OF SIMPLE DESIGN MADE WELL
NOT A COMPLICATED DESIGN MADE CHEAPLY

Its records and the opinions of its users speak more loudly than self praise. Agencies for 1909 are being closed rapidly. Much good territory still open.

BRUSH RUNABOUT COMPANY, Detroit, Mich.

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Locomobile

Establishes American Supremacy in Automobiles

Wins the Vanderbilt Cup

The Greatest International Road Race ever held in this country and the supreme test of reliability and endurance.

258 MILES IN 240 MINUTES

OVER A SLIPPERY COURSE

Locomobile No. 16 was first; Locomobile No. 1 would have finished in third place, but the race was called off after two cars had finished. At this unexpected announcement touring cars came out on the course, and as No. 1 Locomobile neared the Grand Stand on its last lap it came in collision with a car 25 YARDS FROM THE TAPE. The Cup Commission had notified the drivers before the race that five cars would be allowed to finish. Out of 19 entries, of which 7 were foreign cars, LOCOMOBILE RAN FIRST AND THIRD. Two cars placed. Something heretofore unknown in any contest for the Vanderbilt Cup. No trouble of any sort was experienced on either of the two cars except from the tires, which were of the anti-skid variety, necessitated by the slippery course.

Made the Fastest Lap

The Locomobile No. 16, driven by Robertson, made the fastest lap—23 45-100 miles—in 20 minutes and 17 seconds. It also ran 5 other laps in less than 21 minutes each. ITS AVERAGE SPEED DURING THE RACE WAS 64 3-10 MILES PER HOUR, INCLUDING ALL STOPS. THIS SMASHES ALL RECORDS FOR THE VANDERBILT CUP, no previous average reaching 62 miles per hour.

Both cars are of 90 h. p. and are substantially the same as our regular stock product, the difference being one of dimensions, so that the victory stands as a splendid triumph for Locomobile design and construction—a triumph for the Locomobile low-tension ignition system, the Locomobile magneto, the 4-cylinder motor, the selective transmission system and other features of the car. The material used in our regular product is everywhere as good and in some places even better than that used in the cars entered in the race AND WHICH WERE BUILT IN 1906.

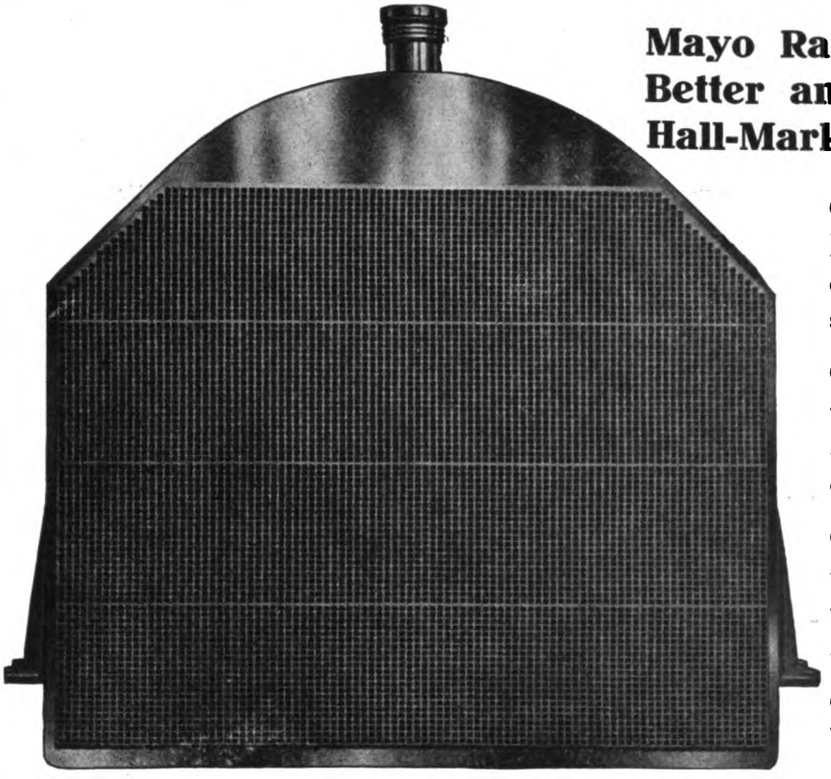
The consistent performance of the two Vanderbilt Cup Locomobiles is but a repetition of the performance of the two entries in the great Founders' Week Stock Car Race in Philadelphia, October 10. This great race was won by a 40 h. p., 4-cylinder Locomobile, regular in every way.

THE LOCOMOBILE CO. OF AMERICA

BRIDGEPORT, CONN.

MEMBER OF ASSOCIATION LICENSED AUTOMOBILE MANUFACTURERS

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Mayo Radiators Make a Good Car Better and Their Use on a Car is a Hall-Mark of Quality.

¶ Mayo Radiators are made in a quality shop. In their construction no expense is spared, no crude methods obtain. In their use complete satisfaction results.

¶ Mayo Radiators perform their functions well under all conditions—and conditions at times are exacting. It is at just such times that Mayo quality asserts itself.

¶ The engineer can eliminate possible radiator troubles from his calculations by the adoption of the best possible radiator. The test of years and use has proved that we make it.

¶ Our capacity limit on new contracts is rapidly being reached.

MAYO RADIATOR COMPANY, New Haven, Conn.

LARGE SALES AND SMALL PROFIT

with thousands of satisfied customers is our best advertisement, and makes it possible for us to import

The Celebrated Brampton Chain

from ENGLAND (paying Freight and Duty) and sell it at **THE SAME PRICE AT WHICH THE OTHER CHAINS ARE SOLD TO AUTOMOBILE MANUFACTURERS, JOBBERS, DEALERS AND OWNERS.**

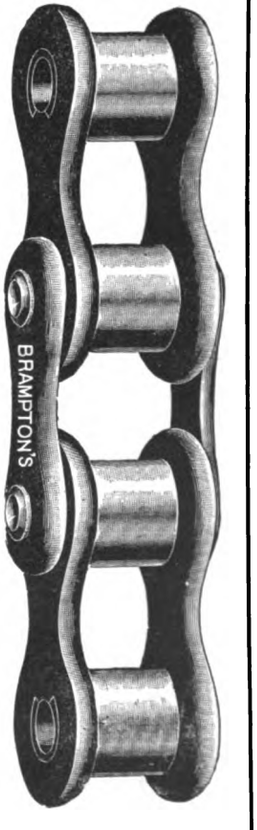
Price Being Equal, Which Would You Prefer? The Best?

Several of the manufacturers now equip their cars with **THE BRAMPTON CHAINS.** Others will do so, if you will order your car that way. No extra cost to you or the manufacturer.

There is an increasing DEMAND for **THE BRAMPTON CHAIN** and it is now being sold by the live jobbers and dealers throughout this country. Agents wanted in unoccupied territory.

PRICE THE SAME—QUALITY. THAT'S DIFFERENT

We are Sole U. S. Agents. Write for proposition. Catalog on request.



CHAS. E. MILLER, MANUFACTURER, JOBBER, EXPORTER AND IMPORTER
Main Office: 97-99-101 Reade Street, New York

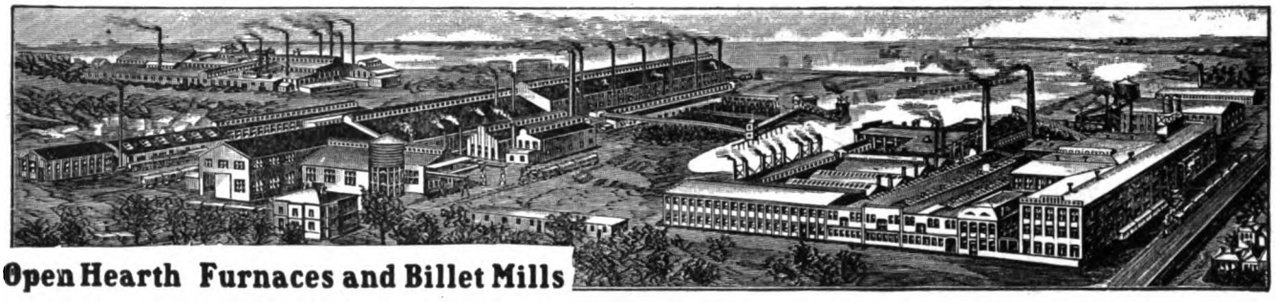
BRANCHES—54th St. and 8th Ave., New York; 202-204 Columbus Ave., Boston, Mass.; 318-320 N. Broad St., Philadelphia, Pa.; 227½-229 Jefferson Ave., Detroit; 1829 Euclid Ave., Cleveland, O.; 1392 Bedford Ave., Brooklyn, N. Y.; 824 Main St., Buffalo.

The Largest Automobile Supply House in America

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The Home of "Swedoh" Spring Steel Rims

Its size is eloquent testimony to the merits of its product.

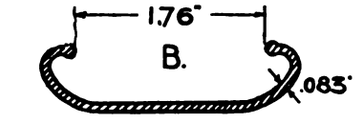


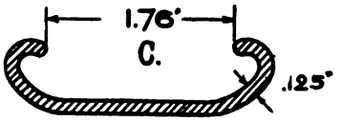
Open Hearth Furnaces and Billet Mills

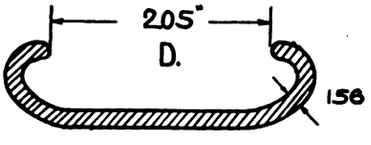
"TRUE AS ('Swedoh') STEEL"

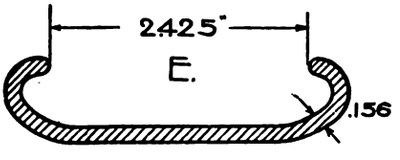
has an added significance when applied to rims, meaning **A TRUE CIRCLE OF STEEL THAT STAYS TRUE.** See that they are on all your automobiles.

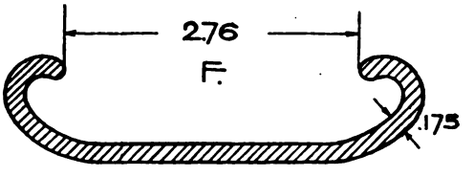
Rims for Wood Wheels











We also manufacture a complete line of **COPPERIZED AUTOMOBILE OILERS**—the kind that last.

AMERICAN TUBE & STAMPING CO.
N. Y. Office 100 Broadway BRIDGEPORT, CONN.

CLINCHER RIM MEASUREMENTS.

Size.	Rim Section.	Inside Diameter of Rims for Wood Wheels.	Diameter of Rims at Tire Seat for Both Wood and Wire Wheels.
26x2½ in.	B.	20.834 in.	21 in.
*28x2¼ " interchangeable	"	21.834 "	*22 " interchangeable
*30x2½ " "	"	23.834 "	*24 " "
32x2½ "	"	25.834 "	27 "
34x2½ "	"	28.834 "	29 "
36x2½ "	"	30.834 "	31 "
26x3 "	"	19.834 "	20 "
*28x3 " interchangeable	"	21.834 "	*22 " interchangeable
*30x3 " "	"	23.834 "	*24 " "
32x3 "	"	25.834 "	26 "
34x3 "	"	27.834 "	28 "
36x3 "	"	29.834 "	30 "
26x2¼ "	C.	20¾ in.	21 "
*28x2¼ " interchangeable	"	21¾ "	*22 " interchangeable
*30x2¼ " "	"	23¾ "	*24 " "
32x2½ "	"	26¾ "	27 "
34x2½ "	"	28¾ "	29 "
36x2½ "	"	30¾ "	31 "
26x3 "	"	19¾ "	20 "
*28x3 " interchangeable	"	21¾ "	*22 " interchangeable
*30x3 " "	"	23¾ "	*24 " "
32x3 "	"	25¾ "	26 "
34x3 "	"	27¾ "	28 "
36x3 "	"	29¾ "	30 "
28x3½ "	D.	20 11-16 in.	21 "
30x3½ "	"	22 11-16 "	23 "
32x3½ "	"	24 11-16 "	25 "
34x3½ "	"	26 11-16 "	27 "
36x3½ "	"	28 11-16 "	29 "
28x4 "	E.	19 11-16 "	20 "
30x4 "	"	21 11-16 "	22 "
32x4 "	"	23 11-16 "	24 "
34x4 "	"	25 11-16 "	26 "
36x4 "	"	27 11-16 "	28 "
28x4½ "	F.	18 21-32 "	19 "
30x4½ "	"	20 21-32 "	21 "
32x4½ "	"	22 21-32 "	23 "
34x4½ "	"	24 21-32 "	25 "
36x4½ "	"	26 21-32 "	27 "
28x120m-m & 5 in.	"	17 21-32 "	18 "
30x120 " & 5 "	"	19 21-32 "	20 "
32x120 " & 5 "	"	21 21-32 "	22 "
34x120 " & 5 "	"	23 21-32 "	24 "
36x120 " & 5 "	"	25 21-32 "	26 "
40x120 " & 5 "	"	29 21-32 "	30 "
		Circumference at Tire Seat.	
750m-mx 85m-m	D.	69 5-16 in.	
800 " x 85 "	"	76 1-32 "	
760 " x 90 "	"	70 3-16 "	
810 " x 90 "	"	76 in.	
870 " x 90 "	"	83¾ in.	
910 " x 90 "	"	88⅛ "	
1010 " x 90 "	"	101⅜ "	
820 " x120 "	F.	70 "	
850 " x120 "	"	74¼ "	
920 " x120 "	"	82¾ "	
1020 " x120 "	"	94 15-16 in.	

* Note that the 28x2½ and 30x2¼ tires are made interchangeable with the 28x3 and 30x3 tires. m Millimetres.

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THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

$2000

Touring Car **Roadster**
Limousine **Landaulet**

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.

ROCHESTER, N. Y.

Member A. L. A. M.

Matheson

1909

Prices Reduced $1,000

And the Reasons Why

Heretofore the Matheson Car has been considered the highest priced as well as the highest grade American car on the market.

Millions of dollars worth of these cars have been delivered to customers who could afford to pay the higher price for the best.

Many other purchasers have been persuaded that some of the lower priced cars have been "just as good." Matheson owners who have used other makes of cars have answered that question satisfactorily. Send for their letters, which we have done up in a book.

In order, therefore, to still maintain the unequalled quality of the Matheson Car and at the same time give customers this magnificent car at the price of the cheaper cars, the makers have figured that by doubling the factory output and selling at a much closer margin of profit, the price of the Matheson Car equipped with Touring, Landaulet or Limousine bodies, could be cut $1,000, and the same chassis, equipped with Roadster or Tourabout bodies, cut $650.

Accordingly, the Company's working capital has been increased by $350,000, and after October 11, 1908, the purchaser can buy a genuine Matheson Car, the very finest of all motor cars of either European or American make, at the makers' former prices to the agent or dealer; namely:

	New Price	Former Price
50 H. P. 1909 Touring Car	$4,500	$5,500
50 H. P. 1909 Roadster	4,350	5,000
50 H. P. 1909 Tourabout	4,350	5,000
50 H. P. 1909 Limousine	5 500	6,500
50 H. P. 1909 Landaulet	5,500	6,500

VICTORIES

The great string of Matheson victories in the important speed, hill climbing and endurance contests of the past seasons, in competition with the greatest cars of Europe and America, can leave no room for doubt that the Matheson car has no peer on any market to-day.

GUARANTY

Every Matheson is guaranteed for 365 days. (Notice that most other cars are guaranteed for 60 to 90 days only.)

MATHESON AUTOMOBILE COMPANY

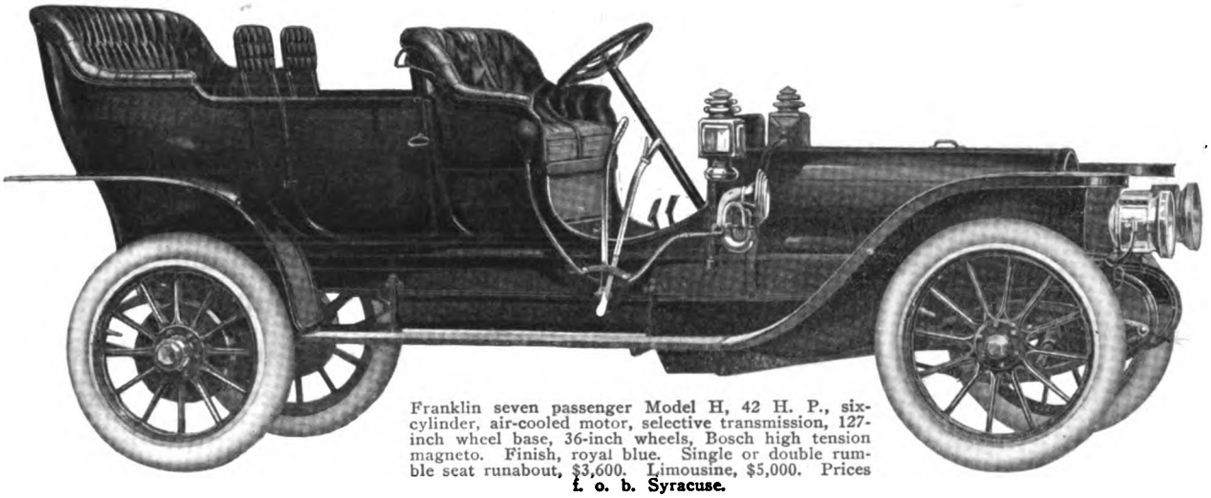
Main Sales Office, 1886-1888 Broadway, New York City

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Franklin Automobiles

Certain manufacturers of water-cooled automobiles are advertising that light-weight is the greatest fallacy of the automobile age. In support of their contention that great weight is necessary in automobile construction, they compare their automobiles with railway locomotives and with Pullman passenger cars. This adds to the gaiety of nations.

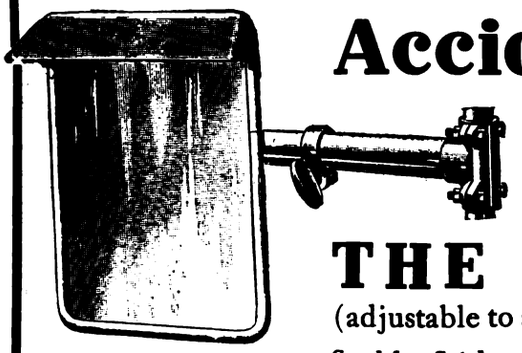
H. H. FRANKLIN MFG. COMPANY
Makers of the light-weight, air-cooled Franklin Automobile.
Syracuse, N. Y.



Franklin seven passenger Model H, 42 H. P., six-cylinder, air-cooled motor, selective transmission, 127-inch wheel base, 36-inch wheels, Bosch high tension magneto. Finish, royal blue. Single or double rumble seat runabout, $3,600. Limousine, $5,000. Prices f. o. b. Syracuse.

The only light-weight large automobile. No other combines such extreme refinement and such flexibility of power with simplicity and great strength.

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Accidents Can Be Avoided

See what's coming from the rear. If you could always do this, there would be few smash-ups. Turning the head is dangerous.

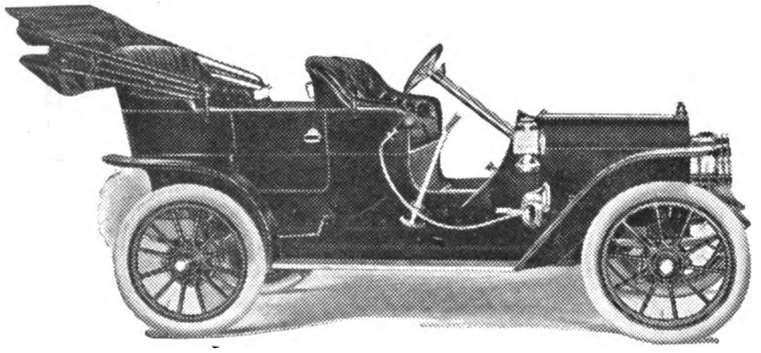
THE ARGUS DASH MIRROR

(adjustable to any position) is made for this purpose and should be on your dash.

Price, $7.50

Send for Catalogue **Motor Car Equipment Co.** 55 Warren St. 1727 Broadway **New York**

OAKLAND



Model B Touring Car, price $1,250.00. Full equipment, including two gas lamps, two side oil lamps, one tail lamp, generators, horn, tools, jack, pump and batteries. Top, $75.00 extra. Runabout, $1,200.

¶ A combination of simplicity and efficiency designed for the man who scrutinizes the car he is to buy, who intends to himself operate it, and to whom economy in up-keep and running expense is essential.

¶ The live agent will find in the Oakland a car that appeals to a large and intelligent class of purchasers and that will justify the fullest confidence.

¶ Correspondence invited.

OAKLAND MOTOR CAR CO., Pontiac, Mich.

J. B. ECCLESTON, Sales Manager, 53 Franklin St., Buffalo, N. Y.

HAYNES

ALWAYS HAS A PERFECT SCORE

HAYNES AUTOMOBILE CO., KOKOMO, IND.

Oldest Automobile Manufacturers in America.
Member A. L. A. M.

New York, 1715 Broadway Chicago, 1702 Michigan Avenue

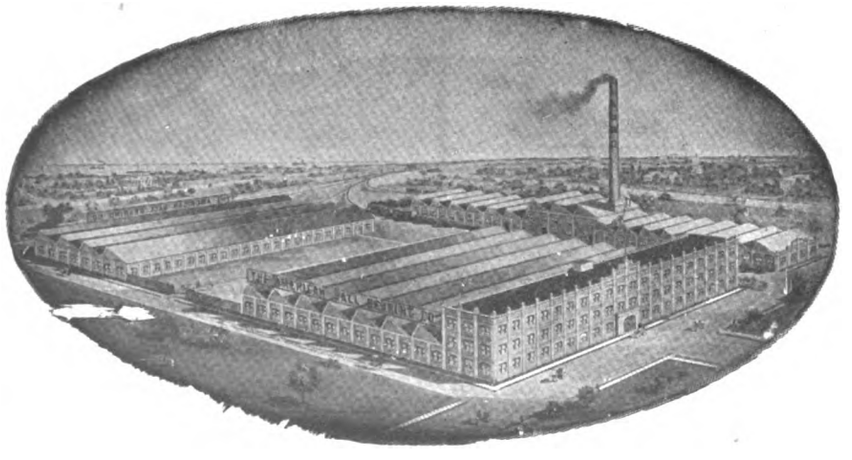
IF YOU ARE INTERESTED IN **MOTORCYCLES**

The Bicycling World and Motorcycle Review

WILL INTEREST YOU

PUBLISHED EVERY SATURDAY AT
154 NASSAU STREET, NEW YORK

$2.00 Per Year Specimen Copies Gratis



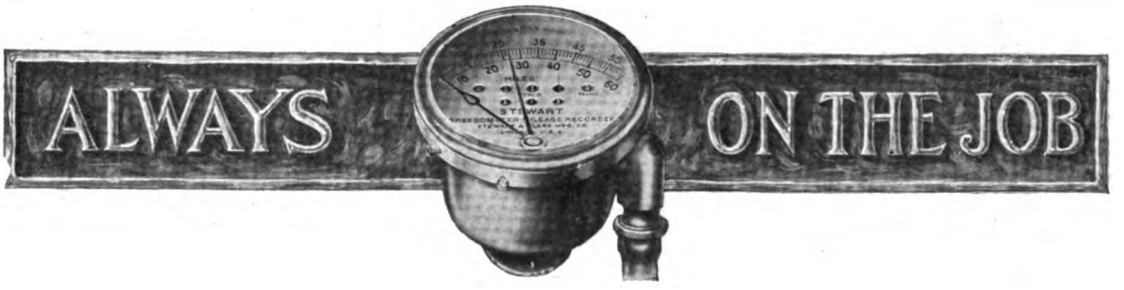
The output of complete Front and Rear Automobile Axles of this plant exceeds the capacity of all competition combined.

THE American Ball-Bearing Co.

L. S. & M. S. Ry. & Edgwater Park

CLEVELAND, OHIO, U.S.A.

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Superior workmanship—costly material—correct construction—combined with the use of the strongest flexible shaft and the famous Stewart Swivel Joint have earned for the Stewart Speedometer, its

Always On The Job Repntation

Just A Few Remarks From Users:

"Have a Stewart—never expect to buy another for THE ONE I HAVE WILL NEVER WEAR OUT."

"Have a Stewart—NO BETTER MADE, running two years without a skip."

"Used the Stewart two seasons — ABSOLUTELY SATISFACTORY."

"Have the Stewart — O. K. — tried another first — N. G."

"Purchased a Stewart in April, now registers 5,000 miles. 'Always on the job.' No trouble."

Our new Model 11 at $25 operates on the multipolar induction principle. This model is by far the most satisfactory speed indicator ever produced, and is superior to any speedometer in the world—bar none.

Covered by Our Ironclad Five Year Guarantee

SEND FOR CATALOG DESCRIBING IT

Stewart & Clark Mfg. Co. 509 Diversey Boul., Chicago, U. S. A.

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THE MARMON

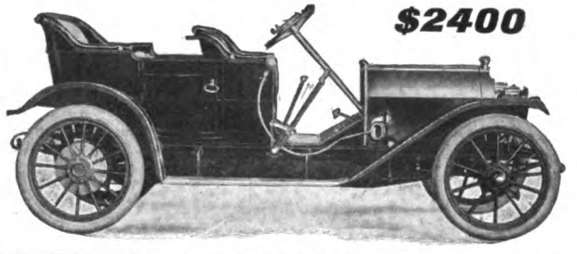
"A Mechanical Masterpiece"





Marmon "Thirty-Two"

$2400



The Most Value Ever Offered In a Motor Car

Before buying any car, take the detailed specifications and compare them—item for item—with the specifications of the Marmon "Thirty-two."

See what you actually get and what you pay extra for. Look at the size of tires and brakes, power, character of ignition, bearings, lubrication, etc.

You'll find that so-called cheap cars are not so cheap, and that no car at $3000 offers so much actual value as this car at $2400. Built as carefully as a fine watch, built to be durable and thoroughly dependable.

Genuine Krupp and Chrome Nickel Steel used in important parts. Bosch magneto and battery—dual system. Hess-Bright bearings. Weight (weigh it), 2,000 lbs. 32-40 H. P. Big Tires (34x4 all around). Fully equipped. Touring Car, Roadster, Four-Passenger Suburban with removable rear seat, or Limousine Town Car.

TO DEALERS: This car is a winner. Your competitors will have to take off their hats to it.

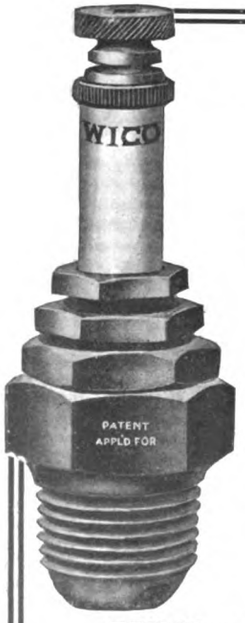
The superb Marmon "Fifty" (with Seven-Passenger or Four-Passenger Body), $3750.

Nordyke & Marmon Co., (Estab. 1851) Indianapolis, Ind.

Standard Mfgrs. A. M. C. M. A.

(We shall exhibit in New York only at Grand Central Palace Show, opening New Year's Eve.)

The Easiest Riding Car In The World



THE WICO

has a micrometer adjustment. That means that you can adjust the spark gap to a known distance—to 1/1000 of an inch. Price, $1.00 each. Actual efficiency beyond price—they are invaluable!

Witherbee for Ignition

Wico Charging Device, Wico Ignition Wire, Wico Spark Plugs, Witherbee Batteries, Wico Inspection Lamp.

WITHERBEE IGNITER COMPANY

Makers of the famous Witherbee Battery. **1876 BROADWAY, NEW YORK.**

CHICAGO—1429 Michigan Ave. DETROIT—220 Jefferson Ave

BUFFALO—43 E. Eagle St.; Main St.

BALTIMORE OFFICE—604 Continental Bldg.

"LONG-ARM" TRANSMISSIONS

THREE speeds and reverse, selective types. The best of material and workmanship. Our experience in gear cutting and manufacturing Automobile Parts enables us to equal the best transmissions built. Let us figure on your requirements.

We also build a complete line of

AXLES, CLUTCHES STEERING REACHES HAND LEVERS, ETC.

The "Long-Arm" System Co.,

CLEVELAND, O.

Sales Dept., THE AMERICAN DISTRIBUTING CO.,

American Trust Bldg., Cleveland, O.

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The Value of the AJAX 5,000 Mile Guarantee

is known and appreciated by every individual **AJAX** user. It also finds substantial recognition at the hands of the automobile manufacturer who knows better than any one how vital the tire problem is to the motorist.

No wonder, then, that careful buyers and conservative manufacturers like the **Maxwell-Briscoe Motor Comapny** give to the **AJAX** the largest tire order ever received by a single tire firm.

Incidentally they give to their customers the benefit of the **AJAX five-thousand mile guarantee,** which insures the user against tire worry and gives him a security that no other tire maker can afford.

MAXWELL-BRISCOE MOTOR CO.

MANUFACTURERS OF "The Maxwell"

NO. 2146-T

THIS NUMBER MUST APPEAR ON INVOICE

TARRYTOWN, N. Y., 9/19, 1908.

Ajax-Grieb Rubber Co.,

57th St. & Broadway, N.Y.C.

PLEASE SHIP US WITHIN ... TO ... VIA

4000 Sets 28" x 3" Ajax Tires Complete.
1500 " 30" x 3" Ajax Tires Complete.
1000 " 30" x 3-1/2" Ajax Tires complete.
750 " 32" x 4" Ajax Tires complete.

Shipment to be made to our several factories, in accordance with instructions to be given later.

MAXWELL-BRISCOE MOTOR CO.,
A. R. Gormully
PURCHASING AGT.

ACCEPTANCE OF THIS ORDER IMPLIES AN OBLIGATION TO FILL OUT AND RETURN FORM BELOW.

The World's Largest Tire Order

Naturally given to the **AJAX.** Every one of the 29,000 Tires is accompanied by our 5,000-mile Guarantee.

Would you insist upon incurring tire hazard when you can buy **AJAX** tires and **AJAX** tire insurance at the same price at which users of other tires buy tires alone, without any guarantee?

Think this over and write for a copy of our 5,000-Mile Guarantee, also for **"AJAX,"** a magazine published in the interest of makers, sellers and users of rubber tires and kindred products of the rubber industry

Ajax-Grieb Rubber Co.

Factories: Trenton, New Jersey.

Branches

NEW YORK CITY—N. E. Cor. 57th Street and Broadway.
BOSTON—819a Boylston Street.
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DENVER, COLO.—1529 Cleveland Place.
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DETROIT—743 Woodward Avenue.
CHICAGO—1418 Michigan Avenue.

AUTOMOBILE FACTS

Will You Buy Dreams or Experience?

The car proved best in every test of moderate-priced automobiles— **THE MAXWELL**

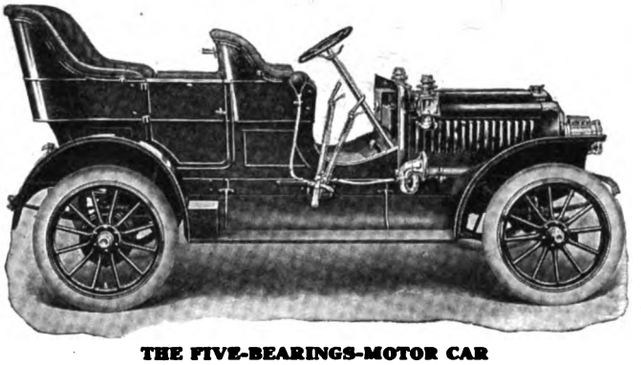
The automobile universally recognized the reliable, durable, aristocratic, moderate-priced car, pre-eminent **THE MAXWELL**

The best equipped, the most extensive automobile manufacturing facilities now existing, are comprised in the three splendid factories, at New Castle, Tarrytown, Pawtucket, with floor area of over twelve acres with over $400,000 worth of equipment, with a capacity of 12,000 automobiles per annum—all founded on our confidence in the superiority of **THE MAXWELL**

Our output for the season of 1907-08 was over five million dollars—all represented by **THE MAXWELL**

In 1908-09 will be over eight million dollars worth of **THE MAXWELL**

We are proud of our success, and among the popular-priced cars, high and above all stands **THE MAXWELL**



THE FIVE-BEARINGS-MOTOR CAR
Maxwell Model DA, 4-Cylinder, 24-28 H. P., $1750

THE MAXWELL-BRISCOE MOTOR CO. never experimented on the public. Mr. Maxwell, instead of copying and skimping in his designs and producing a hodge-podge automobile, has created a true American car, for American roads and American touring conditions, with every possible regard to the demands of the average American motorist.

THE MAXWELL is the first and foremost utility car of America.

MAXWELL cars bought three, four or five years ago and in constant use since, are better cars to-day than the cheap freaks of even a year ago. Where are the two-year-old cars of some makes?

MAXWELL two-cylinder cars are the standard two-cylinder car of the world.

MAXWELL four-cylinder cars, the high-grade, moderate-priced car, has five main crank shaft bearings.

MAXWELL bodies are made of steel.

MAXWELL cars cost more to make this way, but they are five times as durable.

MAXWELL cars are of unit construction that no stress can unline.

The Maxwell-Briscoe Motor Company has found that it paid to have ideals, not to try to see how cheap it could make automobiles, but to make good automobiles, and sell them at a low price commensurate with small profits and a large output.

Advance literature now ready for distribution, showing complete 1909 line

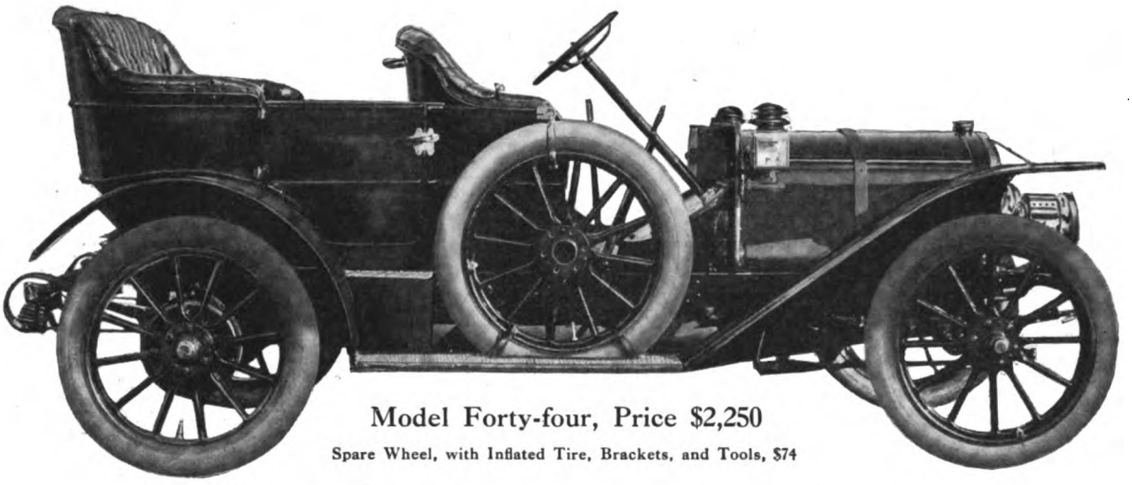
MAXWELL-BRISCOE MOTOR CO.

P. O. Box 106, Tarrytown, N. Y.

FACTORIES: NEWCASTLE TARRYTOWN PAWTUCKET

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Rambler 1909

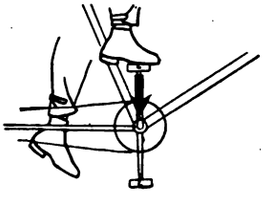


Model Forty-four, Price $2,250

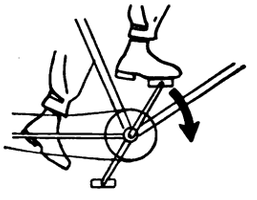
Spare Wheel, with Inflated Tire, Brackets, and Tools, $74

THE OFFSET CRANK-SHAFT

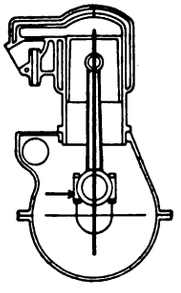
MOST automobiles develop sufficient power when they are traveling at a high speed. The greatest need is for power at slow engine speeds. Rambler Model Forty-four can be operated smoothly and steadily at three miles an hour on high gear. This is because of the offset crank-shaft.



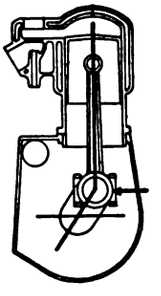
Equivalent to position in ordinary engine of piston at explosion center. Illustrates energy wasted to overcome dead center.



Equivalent to position in Rambler engine of piston at explosion center. No energy wasted. Full power of explosion exerts turning effort to crank-shaft.



Ordinary engine Crank-shaft in line with connecting-rod, creating a dead center.



Rambler offset crank-shaft. Dead center eliminated.

How the Offset Crank-Shaft is an Advantage

Write for special information regarding the Rambler Spare Wheel, the offset crank-shaft, and other special Rambler features

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company. *Main Office and Factory: Kenosha, Wis.*

Branches and Distributing Agencies: Chicago, Milwaukee, Boston, New York, San Francisco

Representatives in all Leading Cities

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, November 12, 1908. No. 7

RE-ELECT A. L. A. M. OFFICERS

Northern License and Membership Transferred to E-M-F.—Record Attendance at Annual Meeting.

For the third time Charles Clifton has been chosen president of the Association of Licensed Automobile Manufacturers, together with Thomas Henderson as vice-president, and L. H. Kittredge, secretary. Colonel George Pope, who last summer succeeded H. H. Franklin as treasurer, was likewise re-elected to office, at the annual meeting held Wednesday, 11th inst., at the association's offices in New York City. One change was made in the executive committee, William E. Metzger being succeeded by G. H. Stilwell, the remainder of the committee being Charles Clifton, S. T. Davis, Jr., Thomas Henderson, and Herbert Lloyd.

Transfer of the Selden license and association membership of the Northern Motor Car Co., to the Everitt-Metzger-Flanders Co., of Detroit, Mich., which latter company has absorbed the Northern's business and property, was effected, thus dispelling such trade doubts and misunderstandings as may have existed concerning the E-M-F. company's relations with the association.

At the session, which was the most largely attended A. L. A. M. meeting ever held, numerous general and special reports were read and approved, and the show committee reported everything well advanced for the forthcoming Licensed show. During the day this committee gave a hearing to the motorcycle manufacturers' requests for more space. As an earnest of the association's interest in the good roads movement, S. D. Waldon was appointed the A. L. A. M. representative on the Good Roads Central Committee.

Those attending the meeting included: Elmer Apperson, Apperson Bros Automobile Co.; J. S. Clarke, Autocar Co.; W. C. Durant, A. H. Goss and C. R. Hatheway. Buick Motor Co.; W. C. Leland, Cadillac Motor Car Co.; Hugh Chalmers and R. D. Chapin, Chalmers-Detroit Motor Co.; M. S. Hart, Corbin Motor Vehicle Corp.; William E. Metzger, Everitt-Metzger-Flanders Co.; H. W. Nuckols and Herbert Lloyd, Electric Vehicle Co.; J. H. Becker, Elmore Mfg. Co.; H. H. Franklin and G. H. Stilwell, H. H. Franklin Mfg. Co.; E. W. Headington, Haynes Automobile Co.; E. R. Hewitt, Hewitt Motor Co.; A. N. Mayo, Knox Automobile Co.; S. T. Davis, Jr., Locomobile Co. of America; Samuel Regar, Lozier Motor Co.; C. W. Matheson, Matheson Motor Car Co.; H. B. Joy and M. J. Budlong, Packard Motor Car Co.; L. H. Kittredge, Peerless Motor Car Co.; Charles Clifton, George N. Pierce Co.; Col. George Pope, Pope Mfg. Co.; A. L. Pope, Pope Motor Car Co.; G. E. Mitchell, Alden Sampson Mfg. Co.; F. B. Stearns, F. B. Stearns Co.; A. H. Ackerman, Studebaker Automobile Co.; E. R. Thomas, E. R. Thomas Motor Co.; E. S. Church, Waltham Mfg. Co., and Thos. Henderson, Winton Motor Carriage Co.

The presence of W. C. Durant with two of his associates in the Buick company, despite the fact that the company is now being sued by the Electric Vehicle Co. for Selden royalties alleged to be due for the past year, was a matter of comment. The relations between the company and the association are described as being in "statu quo" for the present.

Pratt Joins the Pierce Forces.

J. Elmer Pratt, formerly associated with the Cadillac company and later with the Buick, has joined the organization of the George N. Pierce Co., of Buffalo, N. Y. His work will be in the sale and allotment of cars, a field in which he has had great experience.

Morse Resigns from Thomas.

E. C. Morse has resigned as commercial manager for the E. R. Thomas Motor Co., of Buffalo, N. Y. His resignation takes effect on the first of the year.

HOUPT TO HANDLE HERRESHOFF

Light Car at Popular Price is Promised—New York Thomas Agent to Undertake Its Sale.

The new Herreshoff car, made by the Herreshoff Automobile Co., of Detroit, Mich., is to come to New York under very favorable auspices, contracts having been signed with Harry S. Houpt under which the latter will handle it. Houpt is well known as the head of the H. S. Houpt Co., which has the Metropolitan agency for the E. R. Thomas Motor Co., while the Herreshoff company was organized last summer, to manufacture cars designed by Charles F. Herreshoff, formerly associated with the American & British Mfg. Co., of Bridgeport, Conn.

The forthcoming model is planned to be of the popular $1,500 order, having shaft drive, transmission mounted on the rear axle, and other features more or less common to this type. Houpt is said to have made tentative arrangements also with F. E. Moskovics, of the Bristol Engineering Co., for a large car to be made by the latter concern at its plant in Bristol, Conn., in accordance with designs to Houpt's special order.

Upon being asked for a confirmation of the details of his arrangement with the Herreshoff company, Houpt declined to commit himself. He indicated that he preferred to say nothing for the present.

"Do you deny the correctness of the news?" he was asked.

"Well," he replied, "I do not affirm it."

Castle Acquires an Atwood Interest.

F. E. Castle, formerly with Gray & Davis, of Amesbury, Mass., has again gone into the lamp business by acquiring an interest in the Atwood Mfg. Co., of Amesbury. As a result of the arrangement the name of the company will be changed to the Atwood-Castle Co., for the future.

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In the Retail World.

Thomas Fassitt is building a garage and salesroom in Easton, Pa. He and his son will be the proprietors.

The Ohio Electric Car Co., of Columbus, O., has changed its name. It is now the Detroit Electric Car Co.

George P. Peterson has arranged to open a Buick agency in Joliet, Ill. It will be located at Clinton and Scott streets.

Milton Updyke's garage, on the Merrick road, near Seaford, L. I., was destroyed by fire on the 2d inst. His loss is about $5,000.

The Maple Place Garage Co., of Jamaica Plain, Mass., has opened an establishment in the rear of No. 4 Maple place. Bert Ross is in charge.

The Lone Star Auto Co.'s garage in Midland, Tex., has been totally destroyed by fire. The loss is estimated at $20,000, with no insurance.

J. W. Maguire, one of Boston's pioneer dealers, has taken enlarged quarters for the sale of Pierce cars. He is now located at 743-745 Boylston street.

Charles S. Howard will shortly open on establishment in Los Angeles, Cal., for the sale of Buick cars. His company has the State agency for the line.

Lee Richardson, a veteran automobile man of Redlands, Cal., is planning to open a store in Los Angeles. He will divide his time between the two places.

Daniel G. Meyer, formerly of Milwaukee, is opening a salesroom and garage at Green Bay, Wis., at Washington and Stuart streets. He will handle the Reo.

The Dietrich Motor Car Co., Franklin dealers in Allentown, Pa., are building a large fire-proof garage. The building will have a street front on three sides.

L. G. Martin, of Pittsburg, Pa., is adding a large fire-proof building to his present establishment at 3923 Forbes street. It will be equipped for garage service.

C. G. Layton, of Danville, Ill., has purchased property at 124-126 North Jackson street for his new salesroom and garage. The latter will have capacity for 100 cars.

Savannah, Ga., has been selected as a distributing center by the Studebaker Automobile Co., of South Bend, Ind. The Southern trade will be in charge of L. E. Ogden.

Following the opening of a New York branch, Gray & Davis, of Amesbury, Mass., have opened a Boston office for the sale of their lamps. It is located at 794 Boylston street.

Chicago headquarters for the Moline Automobile Co., of Moline, Ill., have been moved from Automobile Row. The new location is at 1220 Michigan avenue, where W. J. Boone is in charge.

Harry P. Branstetter, of 1337 Michigan avenue, Chicago, Ill., is to have charge of the Middle West distribution of Kisselkars for 1909. He has changed the name of his establishment from the Branstetter Motor Co. to the Kissel Motor Car Co.

The Weldon & Bauer Co., of Newark, N. J., has filed articles of incorporation, to do an automobile and garage business. The concern wil continue, as formerly, at 200-202 Halsey street.

W. H. Chase, plumber and automobile repairer, is fitting up a garage in Union Square, at Dover-Foxcroft, Me—the first in the twin towns. A complete repair shop will be a feature.

R. C. Hamlin, of Los Angeles, Cal., has under construction a large T-shaped garage on Olive street, a feature of which will be the entire freedom from supporting posts on the floor. The salesroom for the display of Franklin cars will have an area of 2,500 feet.

The American Locomotive Co., of Providence, R. I., has appointed Benjamin C. Day as manager of its Chicago branch, which will be located on Michigan avenue at Twelfth street, in the corner of the old Zion temple. In order to take the new position, Day resigned as Chicago manager for the Winton Motor Carriage, in which capacity he has been succeeded by J. F. Davis.

Show Luncheon and Headquarters.

The show luncheon of the American Motor Car Manufacturers' Association will take place at 1 o'clock, Tuesday, January 5, at the Hotel Manhattan. The hotel will be the Association headquarters during show week.

Burg Buggy Takes up Motor Cars.

The Burg Buggy Co., of Dallas City, Ill., has decided to make motor vehicles. Following the production of several experimental models the manufacture of quantities will be commenced very soon.

Organize to Make Automobiles.

The De Witt Motor Vehicle Co. has been formed to manufacture automobiles at North Manchester, Ind. The principal stockholders include Virgil De Witt, Mary J. De Witt and James S. Rose.

Hildebrand Visiting the West.

C. C. Hildebrand, general sales manager of the Stevens-Duryea Automobile Co., of Chicopee Falls, Mass., is visiting the western agents of the company. His trip will extend to the Pacific Coast.

Dale's Successor is Chosen.

To succeed the late Charles H. Dale as president of the Rubber Goods Mfg. Co., the choice has fallen on John J. Watson. He is also treasurer of the United States Rubber Co.

Havener with the Hartford Rubber.

L. C. Havener has become a New England representative for the Hartford Rubber Works Co., of Hartford, Conn. He will make his headquarters in Boston.

The Week's Incorporations.

White River Junction, Vt.—Miller Automobile Co., The, under Vermont laws. Capital, $5,000.

Indianapolis, Ind.—Marion Automobile and Manufacturing Co., under Indiana laws, with $10,000 capital. Corporators—Charles Rennaker, Frank Boyer and Clifford G. Rust.

Atlanta, Ga.—Fulton Motor Car Co., The, under Georgia laws, with $3,000 capital; automobile agency business. Corporators—Dr. R. F. Ingram, Paul McMichael and J. E. Levi.

Hartford, Conn.—Richardson Engineering Co., The, under Connecticut laws, with $10,000 capital. Corporators—D. A. Richardson, Victor F. Morgan, and P. L. Hewman.

Lynbrook, L. I.—Walton Motor Co., under New York laws, increase of capital from $10,000 to $20,000. Attorney—George F. Hickey, 78 Wall street, New York City.

Cleveland, O.—Zenith Motor Goods Co., The, under Ohio laws, with $25,000 capital. Corporators—J. J. Downey, L. B. Le Bel, K. C. Stewart, P. A. Iddings and A. S. Shearer.

Elyria, O.—Airless Puncture-Proof Tire Co., The, under Ohio laws, with $10,000 capital. Corporators—George E. King, B. Lighthall, W. J. Engel, S. C. Henderson and W. C. Marple.

Long Beach, N. Y.—Long Beach Garage Co., under New York laws, with $50,000 capital. Corporators—Dix W. Noel, William B. Davis and John Gerdes, No. 1 Broadway, New York City.

Plattsburg, N. Y.—Lozier Manufacturing Co., under New York laws, with $60,000 capital; to manufacture motors, etc. Corporators—John M. Weaver, George F. Tuttle and Samuel L. Wheeler, of Plattsburg.

Burlington, Vt.—Vermont Motor Co., under Vermont laws, with $5,000 capital; dealing and repairing. Corporators—F. A. Rich, Henry H. Hagar, Russell W. Taft, F. W. Chamberlain and Guy E. London.

Bucyrus, O.—Bucyrus Transportation Co., The, under Ohio laws, with $5,000 capital; to operate a motor transportation line. Corporators—C. R. Rowe, J. K. Myers, Jacob Bach, Charles Quantaine and F. A. Walther.

Codd is Fishing for a Site.

George P. Codd, a former mayor of Detroit, Mich., and at one time an official of the Northern Automobile Co., has been in Cincinnati, ostensibly seeking a site for an automobile factory. He indicated that a $250,000 company is being planned, to make light cars.

Cleveland Selects Its Show Date.

Cleveland's automobile show has been set for the week of February 15. It will be held in the Central Armory, under the management of a dealers' committee.

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TO BE CHICAGO'S BIGGEST SHOW

Number of Pleasure Car Exhibitors Exceeds that of Last Year—List of Main Floor Spaces.

Spaces at the Chicago automobile show, which is to be held February 6 to 13, have all been taken, and the list of pleasure car exhibitors exceeds that of any of the previous years. Practically all of the prominent makers are included, together with a number of manufacturers who have never exhibited before. While last year the total number of exhibitors staging pleasure cars reached 90, the coming show will have 92, and there are quite a few on the waiting list, for whom provision will be made if possible. There will be at least 12 automobile exhibits in the basement of the Coliseum Annex, supplementing those already listed for the regular spaces.

The accessory makers are to occupy the galleries of the Coliseum and the Armory, the second floor of the Coliseum Annex, and a part of the basement. In this class there is a greater allotment than ever before. The motorcycle section is also to be an important feature of the show and will include 21 exhibitors, as against 11 in this class last year. The list of exhibitors of pleasure cars and motorcycles is as follows:

Coliseum—Main Floor.

Winton Motor Carriage Co., Cleveland, Ohio.
Pope Mfg. Co., Hartford, Conn.
E. R. Thomas Motor Co., Buffalo, N. Y.
Stevens-Duryea Co., Chicopee Falls, Mass.
Peerless Motor Car Co., Cleveland, Ohio.
Elmore Mfg. Co., Clyde, Ohio.
Woods Motor Vehicle Co., Chicago, Ill.
Thomas B. Jeffery & Co., Kenosha, Wis.
Babcock Electric Carriage Co., Buffalo, N. Y.
Baker Motor Vehicle Co., Cleveland, Ohio.
F. B. Stearns Co., Cleveland, Ohio.
Reo Motor Car Co., Lansing, Mich.
Packard Motor Car Co., Detroit, Mich.
Everitt-Metzger-Flanders Co., Detroit, Mich.
Premier Motor Mfg. Co., Indianapolis, Ind.
Studebaker Automobile Co., South Bend, Ind.
National Motor Vehicle Co., Indianapolis, Ind.
Haynes Automobile Co., Kokomo, Ind.
The White Company, Cleveland, Ohio
Dayton Motor Car Co., Dayton, Ohio.
Cadillac Motor Car Co., Detroit, Mich.
Maxwell-Briscoe Motor Co., Tarrytown, N. Y.
Locomobile Co. of America, Bridgeport, Conn.
H. H. Franklin Mfg. Co., Syracuse, N. Y.
Apperson Bros. Automobile Co., Kokomo, Ind.
Buick Motor Co., Flint, Mich.
Holsman Automobile Co., Chicago, Ill.
Pope Motor Car Co., Toledo, Ohio.
American Locomotive Co., New York.
George N. Pierce Co., Buffalo, N. Y.
Olds Motor Works, Lansing, Mich.
Corbin Motor Vehicle Corp., New Britain, Conn.
Matheson Motor Car Co., Wilkes-Barre, Pa.
Lozier Motor Co., New York.
Bartholomew Co., Peoria, Ill.
Chalmers-Detroit Motor Co., Detroit, Mich.
De Luxe Motor Car Co., Detroit, Mich.
Mitchell Motor Car Co., Racine, Wis.
Ricketts Auto Works, South Bend, Ind.

Coliseum Annex—First Floor.

Simplex Motor Car Co., Mishawaka, Ind.
York Motor Car Co., York, Pa.
Austin Automobile Co., Grand Rapids, Mich.
Oakland Motor Car Co., Pontiac, Mich.
Pennsylvania Auto-Motor Co., Bryn Mawr, Pa.
Midland Motor Co., Moline, Ill.
Welch Motor Car Co., Pontiac, Mich.

First Regiment Armory.

Kissel Motor Car Co., Hartford, Wis.
Speedwell Motor Car Co., Dayton, Ohio.
Buckeye Mfg. Co., Anderson, Ind.
Jackson Automobile Co., Jackson, Mich.
Columbus Buggy Co., Columbus, Ohio.
Moon Motor Car Co., St. Louis, Mo.
Atlas Motor Car Co., Springfield, Mass.
Dorris Motor Car Co., St. Louis, Mo.
Overland Auto Co., Indianapolis, Ind.
Cartercar Co., Detroit, Mich.
Waverley Co., Indianapolis, Ind.
W. H. Kiblinger Co., Auburn, Ind.
Mora Motor Car Co., Newark, N. Y.
Nordyke & Marmon Co., Indianapolis, Ind.
Moline Automobile Co., E. Moline, Ill.
Auburn Automobile Co., Auburn, Ind.
Anderson Carriage Mfg. Co., Anderson, Ind.
Chicago Coach & Carriage Co., Chicago, Ill.
Rapid Motor Vehicle Co., Pontiac, Mich.
Black Mfg. Co., Chicago, Ill.
Meteor Motor Car Co., Bettendorf, Iowa.
Streator Motor Car Co., Streator, Ill.
Stayer Carriage Co., Chicago, Ill.
Anderson Carriage Co., Detroit, Mich.
Model Automobile Co., Peru, Ind.
J. V. Lindsley & Co., Dowagiac, Mich.
Fort Pitt Motor Mfg. Co., New Kensington, Pa.
Wayne Works, Richmond, Ind.
Gaeth Automobile Co., Cleveland, Ohio.
Berliet Import Co., Chicago, Ill.
Rauch & Lang Carriage Co., Cleveland, Ohio.
C. P. Kimball & Co., Chicago, Ill.

MOTORCYCLE SECTION.

Coliseum Annex—Second Floor.

Minneapolis Motorcycle Co., Minneapolis, Minn.
The Pierce Cycle Co., Buffalo, N. Y.
Merkel-Light Motor Co., Pottstown, Pa.
Reading Standard Co., Reading, Pa.
New Era Gas Engine Co., Dayton, Ohio.
Bicycling World, New York.
Magnet Motor Co., Chicago, Ill.
Motorcycle Illustrated, New York.
Hendee Mfg. Co., Springfield, Mass.
Harley-Davidson Motor Co., Chicago, Ill.
Excelsior Motor Mfg. Co., Chicago, Ill.
Wagner Motorcycle Co., St. Paul, Minn.
Consolidated Mfg. Co., Toledo, Ohio.
Ovington Motor Co., New York.
Aurora Automatic Machinery Co., Aurora, Ill.
Thiem Mfg. Co., Minneapolis, Minn.
Auto-Bi Co., Buffalo, N. Y.
American Motor Co., Brockton, Mass.
N. S. U. Motor Co., New York.
The Hornecker Motor Mfg. Co., Geneseo, Ill.
Armac Motor Co., Chicago, Ill.

Bendix to Build in Logansport.

After strenuous efforts to absorb $75,000 worth of the stock of the Bendix Automobile Co., the citizens of Logansport, Ind., are in joyful celebration of the fact that the Bendix factory is to be "in their midst." All but $3,500 of the $75,000 stock subscription demanded has been taken, and the Logansport Land and Investment Co., the local association of business men which seeks to draw manufacturers to the town, has secured a factory site for the company. The latter has generously indicated its willingness to "take a chance" on the small balance of the stock subscription being taken up in the near future, and will hereafter date its letters from its new address.

Truck Builders Seek Norwalk Capital.

The Commercial Truck Co., of Plymouth, O., has made a proposition to the Chamber of Commerce of Norwalk, O., which the latter body is seriously considering. If Norwalk will subscribe for $75,000 worth of the company's stock, the concern will move and build a big factory in the city. W. C. Gilder, general manager of the company, appeared before the chamber, together with A. M. Trego, and asa result of their statements a committee has been appointed to investigate the condition and prospects of the business.

Marseilles May Produce Motor Buggies.

Charles Keagle, of Kankakee, has been raising the hopes of the residents of Marseilles, Ill., by looking for a site for an automobile factory. Keagle is connected with the Waldron Car Mfg. Co., near Kankakee.

OPPOSES POPE RE-ORGANIZATION

Hearing Develops Objection from a Stockholder—Both the Hagerstown and Elyria Plants are Sold.

Opposition to the proposed reorganization of the Pope Mfg. Co., of Hartford, Conn., has arisen, objection to the terms offered by the reorganization committee having been made by Thomas H. O'Connor, of Jersey City, a stockholder, at a hearing on Tuesday, 10th inst., before Vice-Chancellor Howell, in Newark, N. J. The committee offers $1,500,000 for the assets of the company, exclusive of $800,000 cash in the hands of the receivers on August 1, the transfer to be post-dated to that time. In his objection, O'Connor wants the court to make certain that the committee's offer is the best that can be obtained. Following the hearing, the vice-chancellor announced a reservation of his decision until Thursday, 12th inst., but later set a date for a further hearing, which will be held on Monday, 16th inst., at which time the receivers and others will be examined under oath.

The sale of the plants at Hagerstown, Md., and Elyria, O., has been approved. For the Hagerstown factory the Pope company receives $57,500, while the Garford saddle factory at Elyria brings $35,000 to the Federal Mfg. Co., which the Pope company owns. Immediately the reorganization plan is consummated, the creditors will be paid their fourth and final dividend of 25 per cent. on approved claims, but should any material delay arise, which is at present unlikely, application will be made for the payment of the dividend without waiting for the completion of the deal.

Apperson Business is Incorporated.

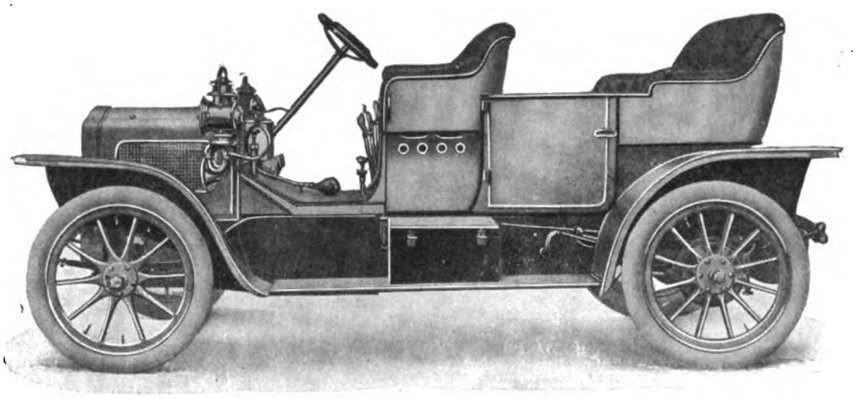
The Apperson Bros. Automobile Co., of Kokomo, Ind., which has in the past been conducted by Elmer Apperson, has incorporated under Indiana laws, with $400,000 capital. It will retain its old name. Under the reorganization the following officers have been appointed: Elmer Apperson, president and general manager; Edgar L. Apperson, vice-president; and Alton G. Seiberling, secretary and treasurer. George H. Strout will continue as sales manager.

Still More Space for Firestone.

Not content with the expansion that will be provided by the new buildings and additions already under construction, the Firestone Tire and Rubber Co., of Akron, O., has made a further purchase, by which it takes over the plant of the Gloge Foundry & Machine Co., adjoining the present rubber factory. The property embraces several buildings and five large lots, which will be the site of another big structure in the spring.

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A WHITE STEAMER FOR $2000!



Not since 1904 have we made a car priced at so low a figure as $2,000. The White—"the car in a class by itself"—has thus been brought within the range of a larger number of purchasers than has been the case in recent years.

The new $2,000 White car, known as our Model "O," has none of the attributes of the "cheap machine." It is simply a "smaller edition" of our $4,000 car. The new model "O" is rated at 20 steam horsepower, which means that it can do the work of gasoline cars rated at much higher figures. The wheel-base is 104 inches; the tires, both front and rear, are 32x3½ inches. The car is regularly fitted with a straight-line five-passenger body. The frame is of heat-treated pressed steel. The front axle is a one-piece forging of I-beam cross section.

The nature of the steam engine is such that the engine of small power has all the desirable attributes of the engine of high power. In other words, as the weights of our small car and of our large car are proportionate to the power of their respective engines, the small car can do anything that our large car can do.

To summarize the features of our new Model "O" car—it is noiseless, odorless, smokeless and absolutely free from vibration. All speeds from zero to maximum are obtained by throttle control alone. The speed of the car responds instantly to the throttle; the engine can never be stalled. The directions for driving are summed up in the phrase, "Just open the throttle and steer." It starts from the seat—"no cranking." It is the ideal moderate priced machine. It is the best for the man who wishes to drive and take care of his own car. It is a result of our nine years of experience in building the White Steam Car—the only machine which finds a ready market in every portion of the globe.

Write for circular giving full details of this car.

THE WHITE COMPANY

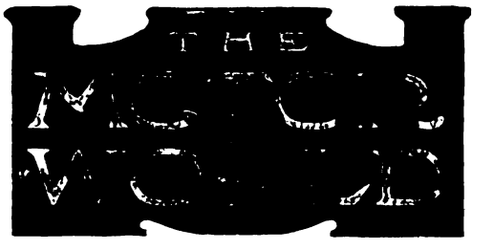
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NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.

PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.

SAN FRANCISCO, Market St. at Van Ness Ave.
ATLANTA, 120-122 Marietta St.

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Marketing the Multiple Product.

Much has been said of the advantages of manufacturing cars in big lots and of the benefits derivable from multiple production both in economy of construction and profit in marketing. But up to this time little or no discussion has arisen as to the relative advantages to the dealer of handling the larger cars, and those of medium and low prices which are built in great quantities. Superficially it would seem to be a question of a large pro rata profit on a small number of sales, or vise versa. Actually it appears that a number of other factors are involved which serve to render the question more complex.

Thus the small or medium car selling at a corresponding price, usually is sold fully equipped, or if with partial equipment offers only a limited market for accessories. Furthermore repairs are largely accomplished by replacing broken or defective parts which are strictly interchangeable so that the amount of labor involved in keeping cars of this class in order is considerably less than is necessary to the maintenance of the more luxurious types. Another point to be considered is that as the agent for the multiple product must handle a greater number of machines in his repair department than the agent for the more costly product, his facilities must be more ample. Again, the fact that the larger machine is usually cared for by a paid chauffeur while the less pretentious affair is more frequently attended to by its owner, also is noteworthy, as in the latter case not simply are the principles of economy apt to be more rigidly adhered to, but a greater share of the repair work is likely to fall on the shoulders of the dealer.

In a word, the profitable handling of the medium and low priced proposition depends upon principles similar to those which govern the production of machines of this type. It is not simply a matter of handling a large volume of business at relatively low profits on the individual machine, but also of handling all the details in such a systematic and expedient fashion that sources of waste shall be reduced to their lowest terms, costs cut to a minimum and the necessary fixed expenses distributed over the widest possible area.

On this account the dealer who has been accustomed to handling large, expensive cars and of catering to an exclusive trade, will find on turning to the "popular" type that a thorough reorganization of his methods must take place before he is enabled to realize the returns apparently promised by a given turnover. For such as are adapted to the administration of close and exacting systems, this transformation will be readily accomplished. To those who are not so constituted, the promised harvest will prove more difficult to garner.

Inferior Brakes on Used Cars.

Ample consideration is being paid by designers and manufacturers to the important question of fortifying the braking system against all possible weaknesses, and with effects which are certain to result beneficially to the industry as well as to the user. At the same time it has been overlooked in the flood of suggestion and advice which has poured in upon makers and dealers, that in the cars of older make a considerable source of peril exists because of their inadequate braking equipments, as well as from the fact that in many cases the owner or operator through long familiarity with the machine has become careless of its condition and has permitted the brakes to get out of adjustment to such an extent that they are little better than useless.

Indeed, from the standpoint of the man in the street, it is more important that the present owner be taught the proper care and handling of his brakes than that the manufacturer be advised to better the equipment of his newest product. The latter, with his own interest in view, and keenly alive to the requirements of the case may be depended upon from this time forward to take care of that phase of the situation. Users of old cars, on the other hand, outnumber those who drive new machines by perhaps four to one—the exact ratio does not matter—and though the proportion of those machines which are really dangerous in this respect is constantly decreasing, it yet constitutes a real menace to public safety.

Within the past few weeks a number of accidents attributable directly to improper braking have served to point the truth that the automobile owner must be made to learn the importance of keeping his brakes in as good relative order as his motor. Worn contact surfaces, faulty adjustments, worn connections, which are liable to give way at a critical moment, and most important of all, brakes which are not strong enough for their work; are points about which too many drivers require instruction. Their neglect means that every car answering to any such shortcoming is a potential source of accident, particularly in city use where it is quite as much a source of danger to the outside public as to the occupants of its seats.

Automobile clubs, dealers' organizations, groups of influential motorists from time to time have taken a hand in the suppression of current abuses of privilege which have tended to undermine the repute of the automobile. Here is an opportunity for a movement along similar lines, looking toward the safeguarding of their interests to a degree quite as important as those for the suppression of noise, glaring lights, reckless speeding. Incidentally it affects some of the oldest and staunchest supporters of all that is best in motoring practice, who still retain cars of several years use, which, however well constructed they may be in other respects, almost without exception

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are weak in the braking equipment. On this account it should not be difficult to urge successfully the comparatively minor conversion involved in the complete renewal of present equipments or the substitution for them of more modern and reliable ones.

A Fault in Steering Wheels.

It is a comparatively rare experience for the driver to find that the rim of the steering wheel has suddenly separated itself from the spider and is lying idle in his hands while the machine is forging ahead without guidance. Yet this has been known to occur more than once, and several fatalities are chargeable to it, though the fact may have escaped the scent of the newspaper writers who are merely content to lay the blame to the steering gear and to omit a more rigid examination into the sequence of cause and effect.

It is easy enough to see how the difficulty may arise. The screws which are merely embedded in the wood or vulcanite of the rim, gradually become loosened through continual racking and possible shrinkage of the rim itself. Once permitted to become slack, they work back and forth as the wheel is used until finally they drop out altogether, or else are sheared off when a sudden strain is thrown upon them.

Obviously where the possibility of such a mishap exists it behooves the designer to improve upon the method of construction by devising some means either of locking the screws in place, or by substituting an entirely different method of uniting rim and spider. For the user, it may be suggested as a wise precaution that whenever the rim is found to have even the slightest perceptible amount of lost motion over the spider, the heads of the screws should be bared and the screws themselves tightened or replaced with new and larger ones. The risk involved is far too serious to be lightly overlooked.

Because of the decrease in automobile registrations in almost all of the states during October, it has been suggested that the motor car trade could not have been quite as brisk during the month as many of the dealers represented. The explanation, according to a prominent metropolitan dealer, lies in the fact that most of the orders given during October were for 1909 cars, which will not be delivered for some little time to come.

LOW FARES TO NEW YORK SHOWS

Trunk Line Grants Special Rate to A. A. A. Members—Applys to All Points Except New England and the South.

That members of affiliated clubs and individual members of the American Automobile Association desiring to attend the midwinter automobile shows in New York City will be given the benefit of a special reduced round trip railway rate of a fare and three-fifths over all lines controlled by the Trunk Line Association was announced from the National Headquarters of the A. A. A. this week. This benefit has been secured in order to permit members living at a distance to secure the benefits of the two show weeks in addition to attending the open meetings which the association purposes holding during the two periods of January 4-7, inclusive, and January 19-23.

In accordance with a plan already announced the association is perfecting arrangements for the meetings which are designed to strengthen the position of the A. A. A. and to further the interests for which that body is laboring. The gatherings will be held at the National Headquarters.

The first series will be coincident with the show in Grand Central Palace, held under the auspices of the American Motor Car Manufacturers Association, which opens on December 31st, and continues until January 7th. Tickets and certificates applicable to this period may be purchased not earlier than December 31st nor later than January 5th, for the trip to New York, which certificates when duly validated will entitled the holder, up to and including January 11th, to a continuous return ticket over the route upon which the going journey was made.

The second series of meetings will be held in connection with the show of the Licensed Association of Automobile Manufacturers which opens on January 16th and continues until January 23d. Tickets and certificates of the second series may be obtained not earlier than January 16th nor later than the 21st for the trip to New York. The certificates entitling the holder to a continuous return ticket over the same route on which the going journey was made, may be validated up to and including January 24th.

Only members of the clubs affiliated with the A. A. A. and individual members of the association will be entitled to these reduced fares. Motorists who are not members may obtain individual membership upon application to Frederick H. Elliott, secretary, 437 Fifth avenue, New York City. Membership must be secured prior to making the trip, however, in order to entitle the new member to the reduced fare privileges. By the concurrence of the Central and Western passenger associations the rate is made to cover all points east of Denver, but not including New England or the Southern States. Members traveling over the lines controlled by the Western Association will be granted the rate of a fare and three-fifths east of Chicago, Peoria and St. Louis. West of those points they will be given a special low rate in accordance with the regulations of the Western Association.

COMING EVENTS

November 14, Philadelphia, Pa.—Quaker City Motor Club's race meet, Point Breeze track.

November 25, Savannah, Ga.—Automobile Club of America's 200 miles light car race.

November 26, Baltimore, Md.—Automobile Club of Maryland's hill climb, Belvidere avenue hill.

November 26, Savannah, Ga.—Automobile Club of America's (New York), 400 miles race.

November 27, Denver, Col.—Colorado Industrial Exposition Association's race meet. Overland Park track.

December 31, Long Island Motor Parkway—Speed trials against time, auspices of the Long Island Motor Parkway, Inc.

February 27-March 3, Hartford, Conn.—Automobile Dealers' Association show.

Traffic Experts to Confer.

For the purpose of still further enhancing the importance of its traffic department, the National Association of Automobile Manufacturers, Inc., has arranged for a series of meetings of the traffic experts connected with the various automobile factories. Under the arrangement recently made, the department now represents not only the National Association of Automobile Manufacturers, but the Licensed Association of Automobile Manufacturers and the American Motor Car Manufacturers Association as well, embracing a total of 93 members. Of these a large number take full advantage of the facilities offered by the department, which attends to classification matters, checking of freight bills, the proper classification of goods shipped to and from the factories, the preparation of and all other attention to claims, and kindred matters requiring expert attention.

James S. Marvin, manager of the traffic department, is at present in the West attending a meeting of one of the classification committees and as soon as that meeting is over, will hold meetings with the traffic managers in Cleveland, Indianapolis, Chicago and Detroit. Later on meetings will be held in eastern cities and it is not unlikely that general meetings will be held during the New York and Chicago shows.

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LOCOMOBILE DAY AT BRIDGEPORT

City Makes Holiday in Honor of Vanderbilt Cup Victory—Banquet to Builders and Driver of Winning Car.

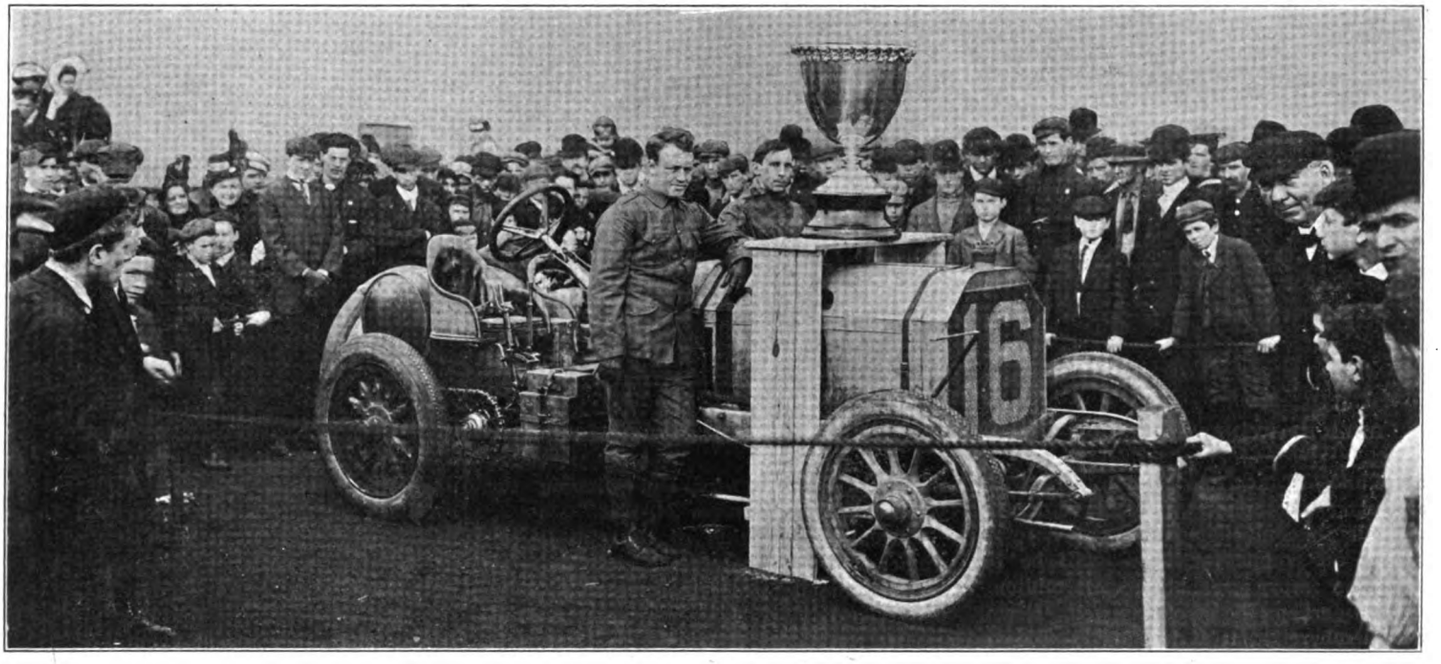
It is probably no exageration to say that seldom if ever has more sincere or enthusiastic tribute been paid to local enterprise than that accorded the Locomobile Company of America by the City of Bridgeport this week, in token of the victory of its car in the Vanderbilt Cup contest of two weeks ago. On Monday, 9th inst., a half holiday was declared in all factories, schools and local places of business, crowds thronged the streets to witness an exhibition performance by the car, and in the evening the celebration was crowned by a banquet tendered by the Bridgeport Board of Trade, the Manufacturers' Association and the Press Club, to the officers of the company and to George Robertson, driver of the winning No. "16" car. As an outburst of civic pride it was quite as conspicuous as in its avowed character of a flattering tribute to a significant achievement in the industry.

As a preliminary to the affair, the victorious car, which had been on exhibition at the New York show rooms of the company, made a triumphal progress to its home town on Sunday. Accompanied by an escort of a score of sister cars carrying representatives of the company and their guests, it made a scheduled run over the famous route across the Connecticut border. Along the way crowds were gathered at places where it had been announced stops would be made to enable the machine to be inspected. At least one stop not on the schedule also was made when, at 116th street, Manhattan, a motorcycle policeman halted Robertson and cautioned him against violating the speed law. As Bridgeport was approached the crowds and the enthusiasm increased until the streets were literally lined with people, many of whom had gone long distances to witness the passage of the car.

Monday's program was characterized by an exhibition of the car on the public streets, when apparently all of Bridgeport's 80,000 inhabitants and a few others from outside were packed along the course. Opportunities for a display of the true speeding capabilities of the car were somewhat limited because of the congestion, nevertheless, in traversing Main street, Bullshead, Meadow street and Washington and Madison avenues some little speed was attained, and in a flight the length of Main street, the distance of 5½ miles was covered in 7 minutes. The demonstration was such as is seldom called forth for any purpose, and probably has never been approached by any similar occasion attributable to the automobile industry.

The banquet of the evening was laid at the Hotel Stratfield, for 300 guests and was graced by the presence of a number of well-known motorists, as well as local celebrities, city officials, newspaper men and others. It was specifically tendered to the officers of the company and crew of the Locomobile which captured the Vanderbilt trophy. The guests of honor included: S. T. Davis, Jr., the president of the company; Amzi L. Barber, his father-in-law; A. L. Riker, designer; E. F. Russell, superintendent; T. H. Thomas, treasurer; J. A. Kingman, George Robertson and Glenn Ethridge, his mechanic. State's Attorney Stiles Judson served as toastmaster, introducing the speakers, and said that the winning of the race was a triumph for the country, for Connecticut, for Bridgeport; a triumph for Riker, the designer of the car, for the officers of the Locomobile company, and the mechanics who put their brains into steel in the making of the car; and for Robertson, the intrepid driver, and his mechanician.

In closing, he pledged this toast: "To the future of Bridgeport, and to the future of Bridgeport's citizenship and may her interests be forever confided to the care of such whole-souled and sterling business men, who through their organizations and aided by the Press Club, have contributed so much success to this occasion."

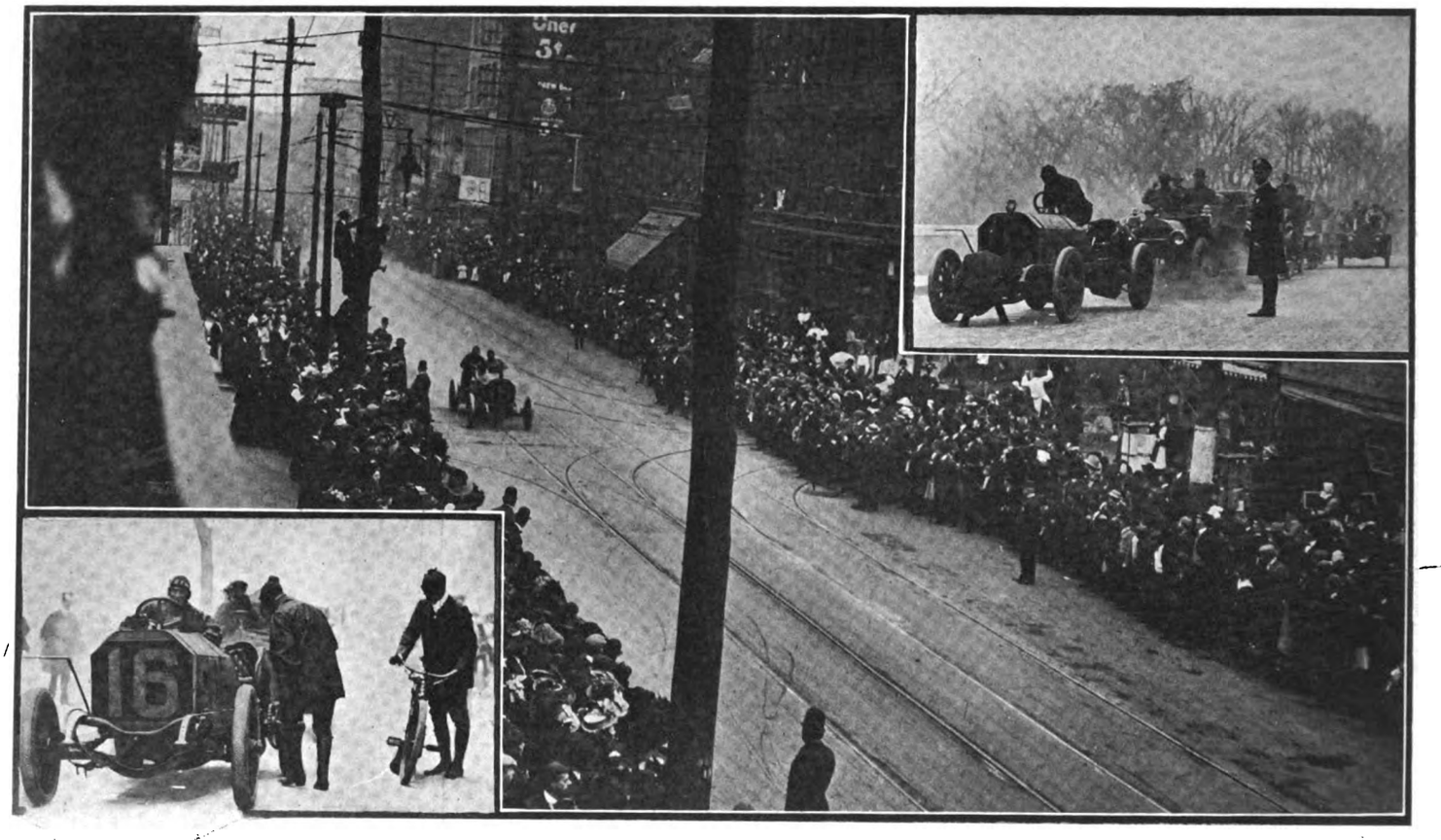


ROBERTSON, THE VANDERBILT CUP, AND THE WINNING CAR AT BRIDGEPORT

Laudations of the car and its makers constituted the chief theme of the speakers at the banquet, an exception being in the case of Barber, who was introduced as the father of the Locomobile company. After laughingly explaining that he had founded the company merely to furnish an occupation for his son-in-law, he devoted his attention to the subject of good roads. A somewhat important utterance was made by Frank G. Webb, vice-chairman of the Vanderbilt Cup Commission, whose remarks constituted the first public declaration of a plan for altering the rules governing the cup contest and forecasted their probable modification to conform to the regulations promulgated by the international congress of recognized automobile clubs.

In remarking that the Locomobile had won its last race and would be ineligible for future contests for the cup, Webb created something of a stir until he explained that in all probability the rules would be changed

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HELD UP BY NEW YORK COP—ROBERTSON'S FLIGHT ON MAIN STREET, BRIDGEPORT—HALTED ON CITY ISLAND BRIDGE.

before another race was held, and that that particular Locomobile would therefore be ineligible to compete again. The bore of engines on competing cars will be restricted in future probably to 131 millimeters and perhaps the stroke as well. It will be remembered that a decision in this direction made early last summer, would in all probability have prevented the break between the American Automobile Association and the Automobile Club of America.

Others speakers of the evening were Police Commissioner George Hill, as Mayor Lee's substitute, and John C. Wetmore, representing the press; Fred Enos, president of the Board of Trade, and others.

One of the chief features of the dinner was the Vanderbilt Cup itself, which stood on the table directly in front of the proud Robertson. Its presence also was the occasion of the presentation to the company of a set of resolutions of appreciation suitably engrossed, by Judge E. K. Nicholson for the Bridgeport Board of Trade, while Andrew L. Riker was the recipient of a Board of Trade shield, in token of his skilful services as originator of the car. Later Robertson was presented with a cup emblematic of the spirit of the evening and bearing the significant legend:

"Local Pride Cup, presented to George H. Robertson, by the Bridgeport Board of Trade, in recognition of his skill and courage in driving the Locomobile 'Made in Bridgeport' to victory and winning the Vanderbilt Cup, October 24, 1908."

Formal presentation of the cup to the winner will be made at the club house of the Automobile Club of America to-night (Thursday), when further tributes will be paid to the achievement. The presentation will be made by Jefferson De Mont Thompson, chairman of the Cup Commission, in addition to which a limited number of speeches will be made by men well known to the sport and industry. There will also be a lighter section of the program, consisting of an exhibition of moving pictures showing the contests for the Vanderbilt trophy and other recent events.



GREETINGS AT NEW ROCHELLE

In many respects the last has proved to have been the greatest of the four Vanderbilt races. Not only was it distinctive to the American because it was a clean victory for an American car, but also because of the fact that the average time of the winner was better than that made by the winners of any previous race. Some little confusion was brought about at the time owing to the fact that the account of the race published by the Motor World failed to emphasize the fact. This was due to an inadvertent comparison of averages for the race. Wagner's average for the 1906 race was 61.43 miles per hour instead of 65.13. As everyone now knows, Robertson's average time of 64.3 was faster than any previous average.

Club Formed to Run Special Trains.

The Twentieth Century Automobile Club, of New York City, has been incorporated under New York laws. with $500 capital. The incorporators include Horace B. Dobbie, Samuel D. Koch and Arthur C. Stafford, 302 Broadway. The club is to run a special train to the races at Savannah.

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ST. LOUIS SEES ITS FIRST CLIMB

Baldwin Makes Best Time up Solomon's Hill—Then Oldfield, Christie and Soules Give Two Days Circus.

Motorists of St. Louis, Mo., and vicinity were treated to a dashing exhibition of hippodrome enterprise on Friday, Saturday and Sunday last, 6th-8th insts., when the conquering trio, Oldfield, Christie and Soules, together with a few local contestants and others performed on Solomon's hill, and on the old fair grounds track. Ostensibly—that is to say, according to the Oldfield posters—the meet was under the auspices of the "Auto Dealers' Association," though as a matter of fact this announcement was a source of some surprise to the members of the St. Louis Automobile Manufactures and Dealers Association.



VIEW OF SOLOMON'S HILL FROM STARTING POINT AT FOOT.

When E. A. Moross dropped in on St. Louis a few weeks ago with determination in his eye, the gods smiled on him; for that very night the members of the association were about to meet and talk over their hill climb and show plans. Moross, who is the manager of a theatrical company of thrillers, appeared at the meeting and made a modest little speech in which he said something about a three-day carnival and explained to the association what a fine thing it would be for them to have two days of track doings follow their proposed hill climb. The dealers refused all his blandishments. Moross, of the "Dare Devil Drivers" company, however, did not retire to the woods defeated. He ordered on his scenery props and actors, emblazoned the town with picture work of the beloved Barney and the dates of the two-day meeting at the old fair grounds race track, with some fine print underneath about the climb on Solomon's hill. In larger letters followed, "Under the Auspices of the Auto Dealers Association."

St. Louis had never had a hill-climb before, and lots of people owning nice automobiles did not know how uninteresting such things can be, so fully 500 of them drove out 14 miles on the Manchester road and lined up for the sights. About ten times as many more people got out there, too, although there wasn't any way to do it except a-foot or en automobile.

Keenly expentant, they waited an hour or so while an amateur adjusted the electric timing device. Then a motor buggy came up the one-sixth mile grade in 2 minutes 54 seconds.

Keenly expectant, they waited an hour they would figure out the percentages based upon piston area, and weight of the competing cars, the latter went home and retired without tackling the job. The next day the dealers said that it was "up to the judges." The judges haven't gone to work with the figures yet, and the indications are that they will not. Nevertheless it is pretty clear that Baldwin, driving a specially made Stanley steamer won the laurels in the free-for-all with a time of 40⅘ seconds. The best time for a gasolene car was that of the Apperson, driven by McClain, which covered the grade of six-tenths of a mile in 46⅗ seconds. In the class for cars with piston diameter between 65 and 90 square inches the Apperson, driven by McClain, beat the 30 horsepower Moon by a close margin.

The incline for the test has a bad turn and because Philip Wells, who piloted the made a vain attempt to regain the record but could not touch the steamer's mark. Once upon a time Oldfield made the old record of 0:59 for this particular course, 30 horsepower Moon, tried to take it at a 35-mile an hour clip, he came to grief. For a minute after the spectators at the top of the hill thought that car and driver had been terribly injured, but when the cloud of dust cleared Philip Wells was found sitting at the wheel of the car with a broad smile on his face. On account of three crazy turns that the machine made a rear wheel gave way, but otherwise the car was uninjured. The Moon was the first fast car to take the turn. Other drivers that followed profited by the accident and cut out their motors when they approached the dangerous spot.

The incline known as Solomon's Hill is the stiffest gradient within a radius of 100 miles of St. Louis. There are steeper turns in the Ozark foothills only. At first the grade is easy, but it grows steeper as the road leads on. The danger curve in the shape of an "S," is about the middle of the route; then the grade becomes stiffer and stiffer to the summit.

The 45 horsepower Stoddard-Dayton, driven by Tuttle, scored over the Packard and Stevens-Duryea stock cars. Tuttle negotiated the climb in 49 flat. The Packard's time was 54⅘ seconds. Oldfield and Soules both covered the distance in 46⅗ seconds.

The feature of the first day's program for the track meet was L. H. N. Baldwin's mile, which he covered in the Stanley steamer in the fastest time ever made by an automobile—on that track. The redoubtable Barney Oldfield made a vain attempt to regain the record, but could not touch the steamer's mark. Walter Christie also tried a circuit in his big "Record Breaker," but the best he could do was 0:59 flat, or two-fifths of a second better than the time made by Oldfield.



BAD TURN LOCALLY KNOWN AS "THE HAIRPIN"

Ollie Savin also performed and made a trial at the mile rocord, but failed to outdo the other exhibitors. Savin, it must be re-

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membered, is none other than "The Great Savini, Champion Driver of Italy," of a year or two ago, and later said to be a chauffeur whom Oldfield had discovered in somebody's garage.

When a "sweepstakes" event was called, Oldfield had no trouble in taking the first heat of 2 miles from Savin in 2:21⅕. Later Christie beat Soules in the second heat in 2:08. This entitled him to try at the final of one mile with the intrepid Barney. The ensuing bout was described locally as the "greatest race ever seen in that part of the country." Christie drew the ragged edge and on the first jump, Oldfield slid along the pole and held it. But Christie was rubbing against his rear tire in hot pursuit, as they flew round, throwing up a surf of dust. In the last 50 yards of the stretch, Christie shot ahead and won by a carburetter's length in 1:04⅕.

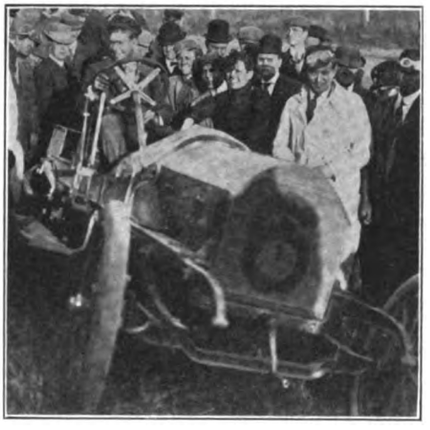
The three miles handicap between Paul Caldwell in a 6 cylinder Pierce (25 seconds), Baldwin in a Stanley steamer (scratch), Jack Blincoe in a 30 horsepower Packard (25 seconds), Jack Taylor at the wheel of a Stoddard-Dayton (20 seconds), and Soules in the Stearns "Red Devil" (15 seconds), was run under a blinding dust cloud. As a result, the Pierce driver deftly won in 3:31, the others failing to catch him. Baldwin, however, passed all of the other contestants, except Caldwell, scoring second, with Taylor in third place.

Two "special" races followed, for Ford and Moon cars, respectively. Sluder and Britter scored first and second in the first of the two, the time being 3:27 for the two miles, while Philip Wells got away with the 2 miles Moonbeam spin in 2:31⅘, with Grinham second.

There was plenty of low comedy in a rough-house 5 miles "novelty" affair, that would be considered a little too strenuous by most law abiding citizens. The conditions provided that each operator should drive his car alone the first mile and at the end of this, pick up three passengers, discharging them at the close of the second mile; then in the third lap, pick them all up again and dump them after the fourth circuit and finish the last lap alone. None of the drivers bothered to slow down sufficiently to permit graceful unloading and as a result, passengers had to take flying leaps from the flying cars, landing all sorts of ways in the dirt. Some of the drivers lost their heads in their high speed efforts, the Moon pilot forgetting to take on a load of passengers on one round, and the Chalmers-Detroit getting away with only one instead of three passengers. F. Maynard, in a Maynard car, was the winner in 8:37⅗.

Two accidents marred the day: one to F. Bahnson, riding a motorcycle in a preliminary event, when he skidded and was thrown, and the other when William Igoe, driving a Moon, plunged through the fence at the far turn in a special trial. Dust blinded the latter driver, who pulled through very slightly damaged, although the car was smashed.

Sunday, the second day of the trackfest, saw Oldfield turn around and beat Christie in the final of another sweepstakes. In the first heat Christie disposed of Soules with ease, when he circled the mile course in 1:00⅗, leaving his opponent to admire the scenery. Then Oldfield and Savin went at it in the second heat, and, of course, the former won, making the two miles in 2:03¾. When Christie and Oldfield lined up for the final, at two miles, it was a fairly even break until the last turn, when



WELLS SURVIVES WRECK OF THE MOON

the latter out-generaled Christie and won by two lengths in 2:04 flat.

It was Baldwin in his steamer, however, who got the crowd enthused. The car went whistling around in a mile trial, and equalled its mark of the previous day, 0:54⅘. Oldfield and Christie performed second best in the mile trials, each doing a circuit in 0:58. Soules went around in 1:02, while Caldwell in his Pierce six did a lap in 1:04⅗.

The five miles handicap saw practically the same starters as the 3 miles handicap of the first day. Baldwin starting from scratch, won a really creditable victory, for in passing the others he had to tear through a veritable maelstrom of flying dirt and pebbles and blinding dust. One by one, he cut down Soules, Caldwell, Phil Wells, Jack Taylor, and demonstrated that in short bursts of speed, stock cars are not to be classed with the special steamer product. Baldwin's time was 3:34, or 3:04 net, and Taylor and Wells scored second and third, respectively.

Jack Taylor, Stoddard-Dayton, took a 2 miles special from Wells, Moon, without great effort in 2:21⅗; H. M. Paine, in a Chalmers-Detroit, being the also-drove. Caldwell piloting his Pierce spread himself by winning the event for comedians—the five miles novelty race. The summaries:

Saturday, November 7.

Two miles for Ford runabouts—Won by H. K. Sluder; second, P. Britter. Time, 3:27.

Two miles for Moon cars—Won by Philip Wells; second, Grinham. Time, 2:31⅘.

Two miles, open to Buick and Chalmers-Detroit cars—Won by McQuillan, Buick; second, Paine, Chalmers. Time, 3:01⅕.

Four miles novelty—Won by F. S. Maynard, Maynard. Time, 8:37⅗.

Sweepstakes event; first heat, 2 miles, between Christie and Soules. Won by Christie. Time, 2.08.

Second heat, 2 miles, between Oldfield and Savin—Won by Oldfield. Time, 2:21⅗.

Final heat, one mile, between Christie and Oldfield—Won by Christie. Time, 1:04⅕.

Five miles motorcycles—Won by J. H. Anderson; second, Frank Hazzard; third, Charles Cornwell. Time, 6:53⅗.

Sunday, November 8.

Two miles special—Won by Jack Taylor, Stoddard-Dayton; second, Philip Wells, Moon; third, H. M. Paine, Chalmers-Detroit. Time, 2:21⅗.

Five milesfi, novelty—Won by Caldwell, Pierce; second, Quinlan, Moon. Time, 7:42.

Exhibition mile—Won by Baldwin. Time, 0:54⅘; second, Oldfield, 0:58; third, Soules, 1:02; fourth, Caldwell, 1:04⅗.

Five miles handicap—Won by Baldwin (scratch); second, Jack Taylor (30 seconds); third, Philip Wells, Moon (30 seconds. Time, 3:04. Caldwell, Pierce and Soules, Stearns also competed.

Sweepstakes event—First heat, 1 mile, between Christie and Soules—Won by Christie. Time, 1:00⅗.

Second heat, 2 miles, between Oldfield and Savin—Won by Oldfield. Time, 2:03¾.

Final heat, 2 miles—Won by Oldfield. Time, 2:04.

Speed Indications for Savannah.

Results of the first practice spins over the Savannah course for the forthcoming Grand Prix race have enabled the prophets already gathered about the southern circuit to form the first estimates as to the times possible of achievement in the race. Although the course is smoothly laid at all points and the turns well banked, it is thought that the number of curves to be encountered will seriously affect the running of the cars. According to one estimate, however, the average may run as high as 68 miles an hour. There are 16 turns in the circuit so that the drivers will have to negotiate no less than 256 corners in the 400 miles race.

America's chances of winning were increased this week by the entry of a sixth competitor for the Grand Prix contest in the 50 horsepower Buick which Robert Burman is to drive. The American representation in full will comprise, in addition to the Buick, the Simplex, National, Lozier, Acme and Chadwick cars.

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NEW ORLEANS EASY FOR STRANG

His Only Failures Caused by Grandstand Play and Tire Trouble—Honey Wins the Fifty Miles Event.

New Orleans' two days track meet held on Saturday and Sunday, November 7-8, at which Lewis Strang and Emil Stricker were billed as head-liners, turned out to be rather uneventful. At times it was very tame, while occasionally bursts of speed worked the enthusiasm of the crowd to a high pitch. Stricker made no sort of a showing, owing to motor troubles and as a result, Strang had no one of high calibre to give him any amount of argument. He took first place in a few races, in walkover style. Tire trouble, however, caused him to lose the big event of the meet, the 50 miles, and an unusual self-imposed handicap prevented him from scoring first in another race which might easily have been his. It is to be hoped that the next race meet held by the newly organized New Orleans Automobile Club will provide slightly better racing, although as a first attempt, this one was considered a success by the local enthusiasts.

On Saturday, the first day of the meet, Lewis Strang distinguished himself from the very start. He made his first appearance in a five miles three-cornered race, which was run in heats and pleased the expectant crowds by winning two out of the three. The first heat was between Herbert Conners in a car bearing the awe-inspiring soubriquet, "Red Devil," and Jack Racklyf, in a Thomas Flyer. The fire and brimstone in the Satanic car soon began to smoulder and in the fourth lap it withdrew, with all of its devilishness completely subdued. Racklyf's time was 6:45. In the second heat, Strang in his Renault, Emil Stricker in his "Green Dragon," and Charles Swaboda gripping the wheel of a Stoddard-Dayton figured. The Green Dragon had trouble with its radiator, and Strang worried no longer, but beat Swaboda by a small margin. Strang led easily through the fourth mile of the final, with Swaboda second and Racklyf third, and then when Swaboda's car broke down, Strang stopped and permitted his mechanician to assist the stalled car. In the meantime, Racklyf, in the Thomas, gained materially on Strang, but the winner of Savannah and Briarcliff soon recovered his lead, winning a victory none too brilliant in 6:29.

In a curtain raiser for cars selling at $1,500, at 5 miles, Thurber, piloting a Chalmers-Detroit, won the honors in 6:50⅕, the race being gingered up by A. L. Abbott's Buick smashing down a fence. Driver and mechanician were hurled out, but escaped injury. Only two contestants faced the starter in the five miles open—"Andy" Anderson with a Ford "Six," and M. F. McIntyre in a White steamer, the latter being protested at first on the ground that it was "specially built." Later when Anderson beat the White in a walkover, to the tune of 6:38⅕, the protest was withdrawn.

In the final event the piece de resistance of the first afternoon, Strang attempted a bit of grandstand play and sacrificed the event in consequence. The race was scheduled to run 50 miles, but on account of the lateness of the hour it was cut to 20. So sure was Strang of winning that he announced that he would stop in front of the grandstand at the end of the tenth mile and change a tire, giving a demonstration of how quickly it could be done. When the field started, Strang got the jump on the others—Racklyf in the Thomas, Anderson in a Ford Six, and McIntyre in a White steamer—and the Renault led for the first 10 miles. Then Strang stopped his car and took just three minutes to remove an old tire and substitute a new one. Meanwhile the Thomas Flyer had gained a mile and a quarter. The Renault driver then set out in an effort to regain the lead. One mile was caught in 58 seconds, which was the fastest of the day. But it was getting dark, and in consequence of this, perhaps, Racklyf finished first, doing the 20 miles in 25:13, and Strang crossed the line just a second after him. Strang's time for the 20 miles, with the three minutes taken out, during which the tire was changed, was 22 minutes and 16 seconds.

In the "feature" event of the second day, the postponed 50 miles race, Strang was a loser. He was leading Frank B. Honey, who was at the wheel of a 60 horsepower Thomas and the pair were making a good race of it when one of the Renault's tires punctured. Strang drove a lap on the rim and then lost three minutes making a change. Honey seized the advantage and made the most of it, the star of the meet failing to catch him before the tape was crossed. The winner's time was 1:01:40, Strang rolling in a natural second, inasmuch as the two other contestants had dropped out. One of these, Charles Swaboda, in a Stoddard-Dayton, broke an axle, which caused him to go crashing through a rail fence. Anderson in the sulphurous "Red Devil," was obliged to quit in the early stages of the bout.

Strang was quite disturbed over his defeat and challenged Honey to another contest at the same distance, agreeing to forfeit $500 to some charitable institution if the Renault could be beaten. The Thomas driver did not pick up the gauntlet, however.

Swaboda in the Stoddard took first in a five miles stock car event, in 6:37⅕, trailed by Anderson in a Ford "Six," and A. L. Abbott with a Buick. The Pelican Handicap at 5 miles, was easily won by Strang. He covered the distance in 5:42⅕, making one of his miles in 0:58⅕. Anderson played to second place, while the Ford and Fred Haack followed.

The wind-up was rather fizzlish. All of the "stars" were scheduled to start in the final five miles event, but at the last moment, the Honey Thomas was withdrawn, and as Swaboda's car was wrapped around a fence post, it was hopelessly barred. This left the fight to Strang and Stricker, and the latter playing in hard luck, broke down after leading Strang for a mile. Strang's time for the lone race was 5:53⅕.

The summaries:

Saturday, November 7.

Five miles, cars selling at $1,500 and under—Won by E. J. Thurber, Chalmers-Detroit (walkover). Time, 6:50⅕.

Five miles, cars selling at $3,000 and under—Won by Anderson, Ford; second, M. F. McIntyre, White. Time, 6:38⅕.

Five miles, Crescent City Sweepstakes—First heat won by Jack Racklyf, Thomas; second heat won by Lewis Strang, Renault. Time, 6:05. Final heat and race won by Strang. Time, 6:29

Twenty miles, open—Won by Jack Racklyf, Thomas; second, Lewis Strang. Time. 25:15.

Five miles motorcycles—Won by Arthur Redfern (N. S. U.); second, Russ Smith (N. S. U.).

Sunday, November 8.

Five miles, cars selling at $3,000 and under—Won by Swaboda, Stoddard-Dayton; second, A. Anderson, Ford; third, Abbott, Buick. Time, 6:37⅕.

Fifty miles open—Won by Frank B. Honey, Thomas; second, Strang, Renault. Time, 1:01:40.

Five miles, Pelican Handicap—Won by Lewis Strang; second, A. Anderson, Ford; third, Fred Haack, Pope-Toledo. Time, 6:37⅕.

Five miles motorcycle—Won by Russell Smith (N. S. U.). Time, 7:10⅕.

Swanbrough Wins Denver Economy Run.

Eighteen cars started out bright and early on Saturday last, 7th inst., on the Denver Motor Club's economy test and all survived the ordeal without swooning or stranding in ditches. The run from Denver to Greeley and return covered a distance of 112 miles, and E. W. Swanbrough, driving a Corbin car, won both of the prizes offered—the Ralph W. Smith cup and the Denver Motor Club cup. The first of these was awarded for scoring the highest percentage in accordance with a formula derived by dividing the weight of the car with passengers, by the weight of the gasolene consumed, as expressed in half ounces. The second prize was awarded to the car making the drive with the least gasolene consumption regardless of any figuring on weight or percentage.

Red Bluff Automobilists Organize.

Red Bluff, Cal., has a new automobile club. James Seeley has been elected president and F. W. Becker secretary.

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LONG GRIND OF ROUGH RIDING

Page Wins Strenuous "Twice-Around-the-Clock" Race at Los Angeles—Rugged Track Causes Accidents.

Driving 21 hours out of 24, J. Murray Page, at the wheel of a 40 horsepower Locomobile roadster, won the "twice-around-the-clock" contest at Ascot Park, Los Angeles, Cal., on Saturday and Sunday, October 31-November 1, covering 916 miles. His nearest competitor, a Franklin, piloted alternately by Guy Irwin and Ralph Hamlin, rolled up 835 miles, and Harry Lord, handling a Studebaker, almost continuously, was third with 629 miles to his credit. The only other survivor of the seven original starters was a 10 horsepower Reo with Lee Garricke at the stem, who reeled off 474 miles, running practically all of the time.

Page, scoring the second big victory for the Locomobile within nine days, won the handsome Diamond trophy valued at $1,000, while Irwin and Hamlin, the Franklin drivers, and Harry Lord, the Studebaker pilot, were awarded gold medals.

The battleground of this affray—the old Ascot Park race track—was no path of roses or Long Island Motor Parkway, by any means, nor was it even a good mile of ordinary road. The circuit was a trail of furrows, ditches and bumps that made anything but pleasant work for the drivers and the rough course was wholly responsible for the accidents that occurred, though fortunately none of them resulted seriously.

Seven cars faced the starter at 4 p. m., on Saturday, Guy Irwin in a 6-cylinder Franklin; J. M. Page, in the Locomobile; Bert Dingley, intent upon holding up his reputation in the Chalmers-Detroit "Bluebird"; Lee Garricke jammed in the 10 horsepower Reo "Kiddo"; together with Frank Free's Sunset, Harry Lord's Studebaker, and Harold Stone's mixed mount, which is said to be partly Pope-Hartford and partly other brands, and known as the "Paris Pet." It was a fairly even start, all cars except the Franklin making a good getaway. Free was the one to nip the pole first, with Dingley and Page hot upon his rear tires, and for a mile they spun around in this order, Free flashing past the grandstand just a few feet ahead of the Bluebird. For a few minutes the pack found the Sunset about as hard to chase as a rainbow. Then Dingley inched up and by degrees eclipsed the leader, to the tremendous shouting of the 4,000 spectators, when he covered a mile in 1:09, the fastest lap of the entire race. Murray held his own in third notch, threatening Free constantly, while Dingley continued to take the curves at high speed of the sensational order. In the seventh round the latter lapped Lord in the Studebaker and during the eleventh he circled Irwin's Franklin "Greyhound." Before the fifteenth mile was completed Dingley's Bluebird had lapped every car on the course.

When he tried to drive a second ring around Irwin's Greyhound another race was on and the crowd went wild with delight as these two fought, taking turns at passing each other for miles.

Before long, Free, tiring of the hot pace, shut down slightly and was content to drop back to fourth place. Dingley had covered 29 miles during the first 30 minutes of the race.

The end of the first hour saw Dingley leading, followed by Page, Irwin, Free, Harry Lord, Stone with his Pope, which had experienced trouble, and the little Reo, which Garricke was joyously piloting. About this time, all of the contestants were obliged to stop and light their lamps, each being allotted the same amount of time for the purpose.

The cars had scarcely gotten well started with their head-lamps burning when Dingley's Chalmers came to grief and slowed down with a badly burned out main bearing, caused by clogged lubrication. This delayed the car for more than three hours while the motor was being torn down and gave the lead to Page and Irwin. The next thing to go wrong was at the end of the third hour, when the "Paris Pet," on its 147th mile, smashed its transmission with a loud rip and a crash, putting it out of the running for good. The break was such a bad one that part of its gear case dropped on the track, before Stone could stop.

At 11 p. m. the end of the first seven hours period, the contestants were called off the track for two hours, to give the course a good rolling. The contestants shot away again at 1 a. m., the Locomobile fighting hard in an effort to pass the Franklin that Hamlin and Irwin were driving alternately, while Free's Sunset was a close third.

Throughout the night and early morning hours Page kept fighting the Greyhound drivers and looked a likely winner when the sun arose on Sunday. Little by little he gained on Hamlin in the Franklin, and during the 15th hour passed that driver and secured the lead, which the Franklin never succeeded in overcoming. At this stage of the game Page's Locomobile had 613 miles to its credit; Hamlin's Franklin, 602; Free's Sunset, 451; Lord's Studebaker, which had developed engine trouble, 446, and the little Reo, 299—still running consistently.

In the 16th hour, Page increased his lead to 16 miles and in the 19th, he had run his mileage up to 781, leading the Franklin by no less than 21 miles—a margin that seemed safe enough. The Studebaker and Reo were trailing at a respectful distance.

Shortly after 1 p. m. Sunday, George Hart, who was Free's alternate in the Sunset, provided a thrill while ploughing over the soft course at a 50 miles an hour clip. Just as he rounded the three-quarter post, a steering knuckle broke and set the car spread-eagling. It described a snakey "S" in the center of the track; then faced about and came to a calm stop. The break was hurriedly brazed and the car rushed back into the race.

Page was relieved by R. J. Leavitt, the owner of the Locomobile, for about three hours during the third period of the contest—the contestants having been given another recess between 2 and 4 p. m. When Page returned to the wheel his victory seemed certain, for while he was chasing the Franklin at a dizzy pace, the former broke a spring and a piece of the leaf was run over by the Locomobile, cauisng the latter's rear to blow out with a loud report. The Franklin had to retire for two hours; then it reappeared and continued to limp along, game to the end.

Then the Sunset, running third, had a second accident; this time with Free at the wheel. He was letting the car out almost to its capacity, when the other knuckle snapped, sending the car directly into a rail post, upon which a boy was perched, The impact shot the youth through the air at meteor speed, landing him undamaged, however. Free and his mechanician, Kendall, were also thrown, but were not injured. The car, however, was reduced to scrap iron.

When the 22d hour was reeled off Page was leading by 74 miles, with the Franklin credited with 799 miles total, and the Studebaker with 591. Garricke's Reo was the only other car left in the race. Through the 23d hour, the Locomobile ploughed along steadily tearing up the loose dirt and when the long grind was called off its score stood at 916 miles, against the Franklin figure, 835, and the Studebaker 629 miles. Garricke and Oberlin, in the Reo "Kiddo," showed that the midget car could run twice around the clock and stand up on all four tires by chalking up 474 miles to its credit.

Date for Quaker City Endurance Run.

What will probably be the first automobile contest of the year 1909 will start in the cool drab dawn shortly after the New Year horns have ceased tooting on January first next, at Philadelphia, Pa. There may be other contests on this same day in other parts of the country, but the members of the Quaker City Motor Club are going to arise early and make an effort to be "first off" with their third annual endurance run, which is to occupy two days, and which will doubtless attract much interest in the scrapple belt. As there has been a change in the deed of gift of the McDonald & Campbell Cup, which formerly was a perpetual trophy, contested for annually, the next contestant will be a decisive one, as the trophy, under the new conditions, will become the permanent property of the winner. In the search for a clean score eliminating route, the contest committee has decided upon Walkes-Barre and return as the line of battle.

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HARTFORD'S MOTOR AMBULANCE

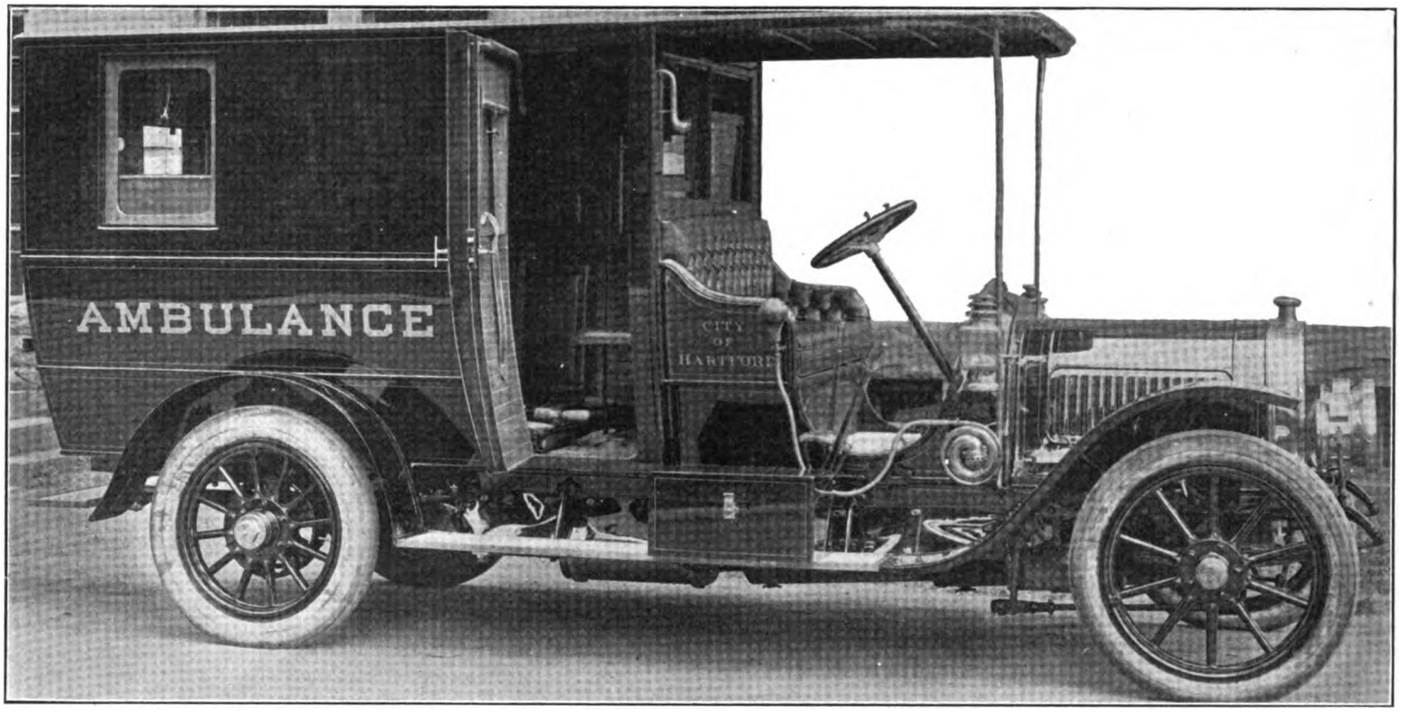
New Pope Model Marked by Departures —Its Unusually Commodious, Accessible and Convenient Interior.

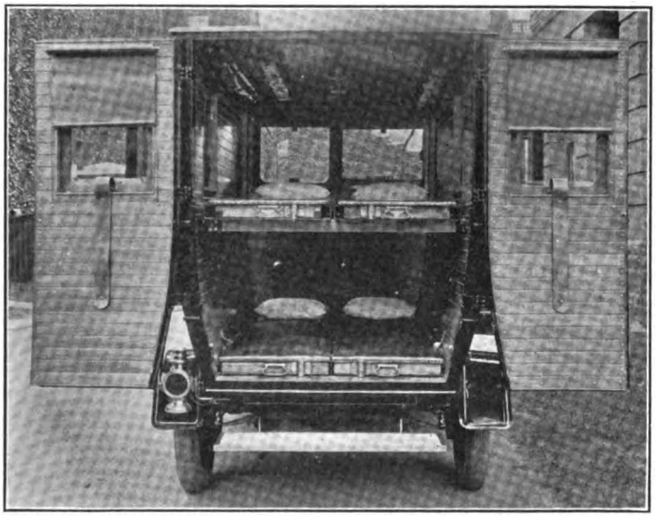
Considerable attention has been attracted locally by the new motor ambulance which was supplied to the City of Hartford, Conn., by the Pope Manufacturing Co., not long since, and which went into active service during the recent Bridge Celebration, on which occasion it gained distinction by accomplishing the successful transportation of no less than eight patients, six of whom were listed as accident cases. In a number of respects, both in regard to the size of the body and its appointment, the machine is a departure from previous practice in the design of motor ambulance, so that its construction is worthy of more than passing attention.

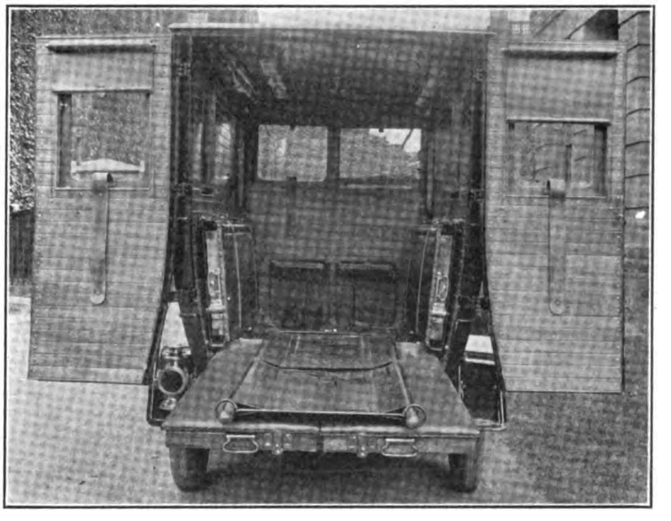
As will be seen from the accompanying illustrations, the body is extremely long, and is furnished with a side door on either side, just back of the driver's seat, in addition to the regular rear entrance for patients. The wheel base is very long, being no less than 130 inches, and the suspension is especially designed with a view to the unusually arduous work for which it is intended. The body is electrically lighted, is furnished with abundant window glass for daylight illumination, has the usual automobile lamp equipment for night work, and carries such tool and emergency equipment as may be required by the 30 horsepower motor.

The interior of the body is 60 inches high, by 36 by 80 inches in floor plan. As will be seen from the two rear views, it is equipped with four beds, leather-covered and arranged to slide in and out on suitable tracks, while by means of a locking arrangement, the beds may be secured when slid into place in the car. Four stretchers also are provided, suspension racks for which are carried on the roof.

The interior furnishings include among other things a medicine chest 31 inches long, fitted with compartments for the safekeeping of the physician's stock, while extra appliances are conveniently located within the interior. There is sufficient room







NEW POPE AMBULANCE IN COMMISSION AT HARTFORD, CONN., WITH VIEWS SHOWING INTERIOR ARRANGEMENT

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for a physician and nurse to ride comfortably within the body, even when carrying the full quota of four patients, while in cases of extreme urgency this number may be increased without uncomfortable crowding. The convenience, controlability and celerity of the motor vehicle for such a purpose readily commends it for this class of work, while the equipment employed in this case and the method of mounting it proves particularly advantageous.

Flower Holders in Car Equipment.

To please the women who are so fond of flowers that they like to have them even when they are in automobiles, the latest fittings for touring cars and limousines are flower holders. They are graceful little crystal cornucopias with a circle of silver at the top and bottom from which the two attaching brackets project. Their form is such that they may be partially filled with water without danger of the latter slopping out on rough roads, and their taper at the bottom makes it possible to force the flower stems in firmly so that the flowers themselves will not jar out even with the most violent movements of the car. The larger sizes are big enough to accommodate bouquets of considerable proportions, such as roses, chrysanthemums, or wild blossoms that may be gathered by the road side, while the smallest sizes are intended for violets or lillies of the valley. The fancy of automobile flower holders had its origin in Europe, and has grown rapidly during the past summer.

Grotesque Design in a Foreign Horn.

Sharp competition for a lion's share of the horn business has led one foreign maker to the extreme of novelty in a design which has just been developed. The usual flare front is replaced by a fearful and "natural" representation of a dragon's head with protruding fangs, while the ordinary convolutions are replaced by a length of plain flexible tubing of tapering section which extends up to the bulb. The reed instead of being located at the throat just back of the bell, is at the base of the tapering flexible section, the latter thus furnishing the necessary resonance.

Butter as a Solvent for Tar Stains.

Butter, of the common or table variety, is alleged by a foreign expert to be the best possible solvent for removing tar stains from the delicate surface of coachwork. Such stains frequently result from driving a newly finished machine over a piece of road which has recently been treated with dust laying compounds, and more often than not, proves very hard to eradicate. For cleansing the upholstery of the car or the clothing of the passengers, the same authority recommends a knot of clean waste dipped in gasolene or benzine and applied by brushing with it the parts to be cleansed.

CRITICIZES THE GASOLENE MOTOR

Professor Kenerson Points Out Its Limitations—Possibility of Eliminating Its Inherent Weaknesses.

Not being at all satisfied with the present types of gasolene motors, Professor William H. Kenerson, head of the Brown University engineering department, made a wholesale criticism of some of their alleged defects, in an address to the members of the Rhode Island Motor League. While admitting that the present gasolene engine is superior to the steam reciprocating engine in comparative efficiency, he finds fault with many features of its construction and operation, among them being the fact that temperature limitations restrict the efficiency, that the impulses should be replaced with a more even flow of power, and that the transmission system in use cause a great loss of energy.

"The idea of the explosion engine was formed 50 years ago," he said, "and 30 years ago the engine took a form similar to the present style. At that time an engine of 2 horsepower weighed 1,400 pounds, or 700 pounds per horsepower. To-day engines of the same general type weigh, I mean those designed to be light, five pounds per horsepower. Notice the great improvement.

"The first traction experiment with an oil engine was made in Providence, on the Cranston horse car line, about 20 years ago. A 2 horsepower engine was tested out, and it was demonstrated then that it took 30 or 40 so-called horsepower to do the work of two horses. The trial was not satisfactory, because the engine was too weak and too heavy.

"Now an ordinary gas engine transforms about 20 to 25 per cent. of the energy into power at the fly wheel. A steam engine transforms 8 to 10 per cent. as an average. The thing which limits us in the transformation of energy into power in an engine is the temperature incident with the transformation. The metal parts of an engine will not stand heat enough to allow of a greater percentage of transformation. And yet we have the very highest grade metals.

"Another limitation is the degree of compression which we can obtain on the gasses. When you compress the mixture in the cylinder, you increase the heat a great deal. The more compression, the higher the temperature. If you compress too hard, you will get pre-ignition, and then you have to stop at once. I have personally seen an automobile engine run with the spark cut off, through pre-ignition.

"Now the reliability and smoothness of running are among the principal features of an engine. Reliability depends upon the proper mixture and its proper use. Smoothness depends upon the evenness of the impulses from the explosion. It is an inherent fault of the present type of gasolene engine, this very powerful impulse given to the piston at more or less regular intervals. Increasing the number of cylinders in an engine is a way to remedy this defect, but not a satisfactory way, for it is merely adding more trouble to a bad thing. The steam turbine and the electric motor, where the impulses are practically continuous and evenly distributed, are samples of the highest type engine for smoothness. A double action gasolene engine, or one where an impulse is given to each end of the piston is altogether too hard to keep cool in a small engine suitable for automobiles. And we must keep the cylinders cool.

"Transmission also is a defect in the present engine. A great deal of power is lost there. I have recently tested at Brown an engine rated 60 horsepower, and found but 35 horsepower delivered at the wheels. Now the metals we use, and the exactness of construction, are nearly perfect, so we can look for no great improvement in the engine from that direction. The designing is perfect, and the assembling.

"We must develop an entirely new type of gasolene engine in order to improve on the present one, and you will agree that there can be improvement in many directions. I believe there is an entirely different kind of gasolene engine which will be developed, still using the idea of internal combustion, or explosion. It will be found possible to remove nearly all the inherent weaknesses of the engines. . . . . And first of all, we must get an engine which will have a more even turning point, and will not deliver such a shock to the piston, with such a tremendous decline in pressure following immediately thereafter."

Concrete Construction for Garages.

Concrete construction for garages has two great advantages, according to an authority in this line. Reinforced concrete, he says, makes it possible to have the floors with few or no supporting columns, thus affording the maximum of free space for moving the cars about. In addition to its fireproof qualities, the concrete flooring is impervious to oils, gasolene or water, so that machines may be washed or stored on the upper floors without any drippings to the floors below.

Cheap Fuel for Pacific Coast Motorists.

As California distillate costs only 6 cents a gallon as against the usual Pacific Coast price of 25 cents a gallon for gasolene, there is much joy among prospective users of White steamers on the Coast over the fact that the 1909 models shipped to that locality will be equipped with burners capable of using the cheaper fuel. It is claimed for the distillate that in addition to its advantage in price, its thermal efficiency is greater than that of gasolene.

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NEW IDEA IN THE DIFFERENTIAL

Application of Leverage System Dispenses with Gearing—The Principle Employed in Various Adaptations.

Many different forms of differential or compensating mechanism have been designed at one time or another, but with few exceptions designers have resorted to the use of toothed gearing for the purpose, practically the only known exceptions to the rule hitherto having been in the case of differential clutch systems. On this account no small interest attaches to a device which has been given some little notice in England recently, in which the usual balancing action is secured as with the ordinary forms of differential, but without the use of gearing of any sort, a simple system of leverage taking the place

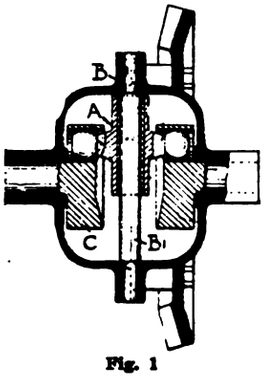


Fig. 1

which toothed gearing ordinarily fulfills in arrangements of the more conventional order.

The result is an unusually compact and simple device, comparing favorably in the matter of construction with the differential clutch and capable of a rather wide variety of application. In place of the usual jack shaft with its pair of bevel pinions meshing with corresponding pinions on the stub shafts, or the several pairs of small spur pinions meshing with larger gears on the ends of the shafts, as is commonly necessary with differential gears, the casing of the device carries a short shaft with its axis at right angles to the axis of the main shaft or axle, while upon it is mounted slideably a small lever which in some manner engages the faces of two discs which form the termination of the stub shafts. Variations in the arrangement are brought about by altering the method of connection between this intermediate member and the shaft ends. The principle is the same in any case.

The principle of action, though somewhat obscure at first, develops upon study. In its simplest form the arangement would comprise merely a short bar loosely mounted on the transverse shaft with its rounded ends engaging cylindrical depressions in the faces of the two discs keyed to the ends of the differential shafts. Power applied to the carrier or housing member, would of course cause both shafts to be driven uniformly so long as they presented equal resistances. As soon as differentiation commences, however, relative motion in opposite direction would be induced in the two shafts, which would be accommodated by the movement of the central and connecting lever or beam.

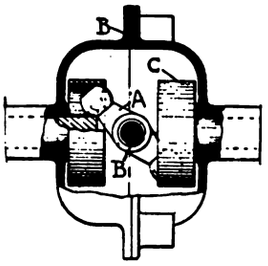


Fig. 2

In order to accomplish this, the beam would be given a combined movement of oscillation about its axis—the transverse shaft—and one of lateral movement along it. The intermediate member in its rocking and sliding motion thus secures exactly the same effect as that produced by the more familiar methods of gearing, and the complete characteristics of the regular differential in every respect are manifested in the complete device.

In the various adaptations of the principle which have been designed, the use of the connecting lever having rounded or spherical ends, is sometimes supplanted by the use of spherical crank webs or eccentrics, while the intermediate member is hollowed to corresponding shape to receive them. This variation also is employed with plain eccentrics on the axle ends, mounting bushings having spherical exteriors which fit the corresponding recesses on the intermediate connecting part.

Several of the possible arrangements are shown in the accompanying illustrations.

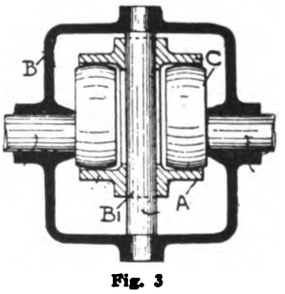


Fig. 3

In Fig. 1, the most elementary practical form is shown as adapted to the ordinary type of differential housing with bevel gear drive. The short transverse shaft, BB^1, is here shown mounted in the housing, while loosely mounted upon it is the connecting lever, A, the rounded ends of which interlock with corresponding recesses in the discs, C. The part A, is shown at one end of its travel. How its movement along its shaft is combined with a rocking movement about it in producing the desired balancing effect between the two shafts is seen to better advantage by reference to Fig. 2, where much the same arrangement is shown mounted in a different form of housing. The indices refer to the same parts as in the previous case.

In the variation shown in Fig. 3, the construction is changed to give heavier parts and more rigid and unyielding action by the reversal of the former design and the use of eccentric members on the shaft ends, which have spherical contours, while the connecting member is formed with large cylindrical openings to receive the eccentric members. While the action is the same in this case as in the preceding, the more massive design will be observed to be of advantage where very heavy vehicle work is in consideration.

In the arrangement shown in Fig. 4, the preceding plan has been followed with a little more elaboration by the insertion be-

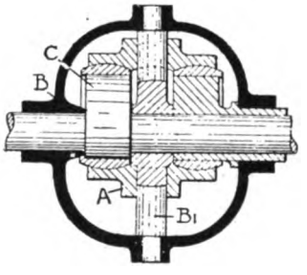


Fig. 4

tween the eccentrics and the openings in the connecting member, of bushings which are bored cylindrical inside, but shaped to the necessary spherical form externally. This arrangement, of course, serves to simplify the rubbing motion between the rocker or connecting link and the eccentrics, thereby tending to distribute the wear over an increased area of surface and prolong the life of the parts. The system is the invention of Reginald Donkin and was described in somewhat extensive detail in a recent issue of the Automotor Journal, London.

In this connection it is rather to be wondered at that with all the varied mechanical possibilities which might be aplied to the differential mechanism, so few, relatively speaking ever have been brought to notice in practical service. Indeed, saving the spur and bevel types, practically none have seen the light, while only a limited number of the possibilities of the differential clutch have been worked up into practical form. Were the differential in common use perfectly satisfactory, this would not be so remarkable. As it is, it would appear that designers as a class had been rather inclined in the past to let well enough alone rather than to "take chances" on mechanisms of unknown characteristics.

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MAKING SMALL SALES PAY WELL

Enterprising Shoe Salesman Gathers Scattered Trade by Aid of an Automobile —His Story of Success.

Of the utility of the motor vehicle for the purposes of the traveling salesman, much has been said. Specific instances in which a saving has been secured in this way, however, are somewhat rare. On this account some little interest attaches to the experience of A. B. Brown, of Grand Rapids, Mich., salesman for a local shoe manufacturer. During the past six months, Brown has been using a Cartercar with a specially built body and in covering some 7,000 miles, has been enabled to keep his sales up to the average, despite the dullness of business in general, because of his ability to reach isolated customers readily and handle their trade with despatch. He says:

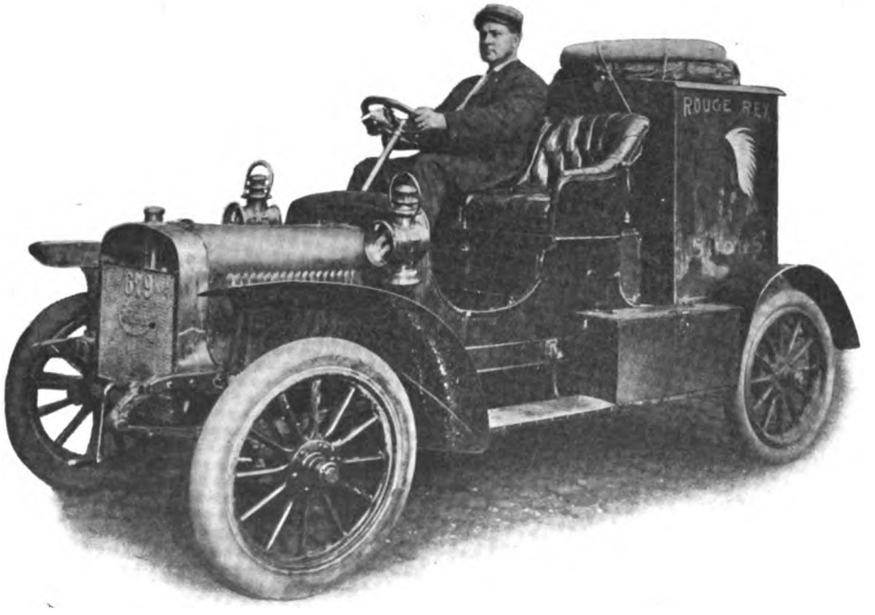
"I have been a salesman for a number of years, selling leather. I wanted to get to selling shoes and I wanted to sell in Michigan, but there was no territory that was not already covered, I was told. I believed that the company was mistaken, however. I secured a map and a gazetteer and proceeded to show them little dealers here and there, and proposed calling on them.

"The company was willing for me to go ahead, so I secured a team of horses, a wagon and a boy to care for them, and got busy. Orders came and I made it pay. I could get plenty of business, but the orders were all small. The only way I could increase my sales was to see more people.

"Finally the firm bought a car for me. I covered Michigan from lake to lake and from Indiana to as far north as the Saginaw valley. I make the territory with my car about every sixty days. I never stop for the weather.

"When I drove the team and kept the boy, my expenses ran $40 a week. With my automobile they do not average over $20 a week. My repair expense for the season has been a trifle less than $100, which includes two new tires which I now have. My automobile is far more reliable than a team of horses ever were. While no sale is large, I can call on a lot of small dealers in a short time and the total adds up nicely, showing a profitable business.

"In fitting up the car, I had the rumble seat removed and a case fitted on as shown in the picture. This is fitted with drawers, each containing a certain class of shoes. If the dealer is interested in a certain line, I take that drawer into the store and it takes about a minute to show him the entire line. In 15 minutes I have the order, the shoes replaced and am bidding him good-day."

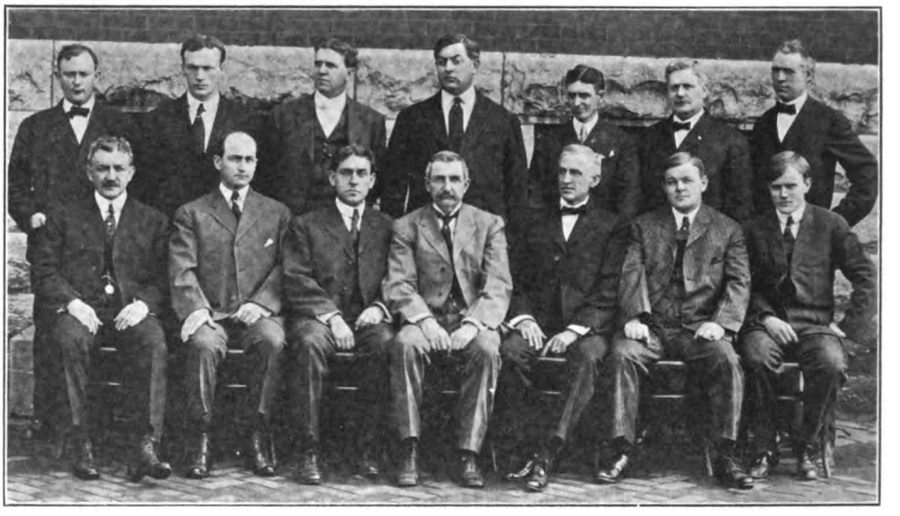


SHOE SALESMAN'S SPECIALLY EQUIPPED CARTERCAR

WAVERLEY MEN IN CONFERENCE

Officers and Salesmen Meet at Indianapolis for Exchange of Ideas—Blending of the Old and New Elements.

This is the season of "conferences." They are being held all through the industry among the heads of firms, the heads of departments, among the members of the various subsidiary forces. Perhaps none of these assemblages are of more definite importance to the parent concerns than those occupying the attention of the selling forces. One such has just been held by the salesmen and officers of the Waverley Department of the Pope Mfg. Co., at Indianapolis, Ind. It was heralded as the most successful ever held, and assumed unusual significance because of the recent change in the status of the concern. It was a blending of the elements of the new and the old.



PARTICIPANTS IN THE WAVERLEY "CONFERENCE"

The accompanying picture shows the officers of the company and the members of the selling forces there gathered. Reading from left to right, those seated in the lower row are: H. W. Goodman, Charles M. McAlpin, purchasing agent; Herbert H. Rice, vice-president and manager; Carl von Hake, treasurer; William B. Cooley, president; Wilbur C. Johnson, secretary; Roy A. Potts, sales manager.

Those in the top row, from left to right, are: E. K. Shugert, R. T. Davis, P. W. Eigner, K. W. Brewer, H. W. Dickerman, E. R. Vincent, W. S. Gilbreath.

Bill Posting Firm Adopts Motor Car.

A unique application of the commercial possibilities of the motor car has just been brought to light in the recorded sale of a Franklin air-cooled truck to the C. J. Gude Co., a firm which handles a vast area of out-of-door advertising space for the education of suburban railway and trolley travelers.

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AUTOMOBILE LAW COLORS POLITICS

Why Jersey Club and Trade Associations Entered a Senatorial Fight—Demand for Fairer Legislation.

No small stir has been created among the ranks of New Jersey motorists over a little incursion into politics undertaken prior to the recent election by a joint committee acting on behalf of the Associated Automobile Clubs of New Jersey and the New Jersey Automobile Trade Association. The incursion took the form of a circular letter sent out broadcast to motorists giving the views of Senator Colby and Harry V. Osborne, the Democratic candidate, on the question of a revision of the motor vehicle law. No doubt could be left in the mind of the reader as to which candidate the committee wished to favor, nor that Colby, who though he evidences an abundant sense of fairness in other matters, appears to have small idea of justice in matters where motorists are concerned, was subject to attack.

Immediately after the sending out of the letters prominent members of the federation began to issue denials of the committee's authority in taking its stand, a counter-current of newspaper criticism was induced and the inevitable factional movement sprung up. In answer to the criticism of the committee's action, W. C. Crosby, acting president of the associated clubs issued a defensive statement showing the underlying cause to be an earnest desire on the part of the motorists to secure a reformation of the present repressive law. He said in part:

"Senator Colby, in an interview prior to the exchange of the letters sent with circular letter to the automobilists, made the remark voluntarily, in response to an expression that the automobilists did not desire to enter into politics, but desired to get fair and equitable laws by personal representation and argument, 'the automobilists will have to go into politics in order to get what they consider right.' Senator Colby also voluntarily gave expression to the policy or spirit, 'that the automobilists were entitled to know where the candidates for office stood in connection with the several amendments desired by automobilists and would be pleased to give his expression on the various amendments'—which he did in response to the letter sent to him by the chairman of our committee, and the committee are unanimously of the opinion that Colby expected that the letter would be used for what it might be worth.

"The committee deemed it best, in view of the letter and the spirit of the interview, to place the matter squarely before the automobilists, that they might know where Colby stood—and we still believe that Colby wanted the automobilists to know where he stood—and leave the matter in their hands. No appeal for votes was made, but an honest, frank statement for the edification of the automobilists as to where the candidates stood on the desired amendments. . . . .

"As for the amendments we ask for, or are fighting for, they are concisely as follows: We want lights on all vehicles at night. We want reciprocal privileges extended to non-residents that non-resident automobilists may exercise their privilege to travel through or over the roads of a neighboring state without taxation. We want a speed regulation that when enforced will secure to all users of the highway safe and happy enjoyment of all privileges of the highway, and we do not want a law which makes every automobilist a criminal and subject to the pleasure or whim of every justice of the peace in the state who desires to arrest automobilists and filch from them small fines and large costs to his own pecuniary benefit.

"Regarding lights on vehicles there should be no discussion, yet we find our legislators, while favorably inclined personally, vote against it, but claim they are and will work for it." . . . .

A similar stand was taken by J. H. Wood, secretary of the joint committee who carried the argument even further.

"Politics has not in any way entered into the consideration of this committee," he declared. "Our demands upon the legislature have been made for principles and for policies which can only be called for by good business judgment. We believe that an industry, which according to statistics which have been gathered by the Trade Association has resulted in a business of over twelve million dollars in one year to the manufacturers and tradesmen of Newark, should receive every consideration at the hands of our legislators. . . . . Should not, therefore, our great manufacturing interests, such as leather, paint, varnish, drop forgings, radiators, battery supplies, wheels, tires, etc., be considered by our legislators in the making of such laws as will benefit them, as well as for revenue for the maintenance of the highways over which these materials are to be carried?

"While the New Jersey license on our cars will carry us from New Jersey to the furthermost point of Maine, entitling us to every courtesy and protection and right in the use of the highways of other states, the non-resident from these same states as soon as he crosses the line into our state is a criminal until he has increased the treasury of the state of New Jersey by paying $14, and is compelled to go in person without any identification to make this registration, and is furthermore compelled to appoint the secretary of our state his attorney. . . . .

"As to Mr. Colby's contention that there are 100 automobiles coming into this state to one going out of it, I take serious exception. Unfortunately, there is no way of getting at definite facts in this matter, but we might take one or two facts for illustration: There are probably no less than one hundred automobiles daily go from Essex and Hudson counties during the summer months to Coney Island. During the Vanderbilt cup race on Long Island over 2,000 automobiles crossed the ferry on Friday afternoon and evening from Jersey. Just imagine this vast throng of machines being held up when they crossed the ferry and compelled to make personal application for a license, pay $14 and give the Secretary of State of New York power of attorney. We not only believe that we are right, but we believe that the community in general agree with us that we are right in this principle that a limited tourist's privilege should be extended to non-residents to come into our state the same as is in effect in New York state and the New England States."

While motorists outside the state and others conversant with the situation will be likely to view the movement with no small interest and appreciation for the activities of the New Jersey owners and dealers, they will probably agree in regretting that this attack should have been centered upon such a man as Colby, while that star player to the galleries and author of the obnoxious measure, Senator Frelinghuysen, who maintains a home in New York City, but continues to vote in New Jersey, remains untouched and thus far, unaffected.

Ohio Law Bothers Kentucky Visitors.

Because Kentucky has no automobile license law a queer situation has arisen in connection with those of its residents who own machines and wish to operate them in Ohio. The law of the Buckeye State provides that residents of other States who conform to the regulations governing them at home will not be required to take out a license to use their machines within the Ohio borders, the registration and tag of the home state being sufficient. But when H. Clay McKnee arrived in Cincinnati from Sterling, Ky., he was stopped by the police. He explained his position satisfactorily there, but was again stopped at Dayton, O., after which he appealed to Dayton's mayor to know what he should do. He was advised to head for Columbus, the state capital, and get an Ohio license in order to avoid further trouble. Upon the understanding that he would do so he was permitted to proceed.

Kansas City Park Board Favors Motorists.

A liberal attitude toward motor cars has been taken by the authorities of Kansas City, Mo., and as the result of a recent meeting of the park board, automobiles will be allowed to go at 18 miles per hour. Furthermore, the machines may now use the Cliff drive, which has heretofore been reserved for horse-drawn vehicles.

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COP CONVICTED FOR PISTOL PLAY

Glencoe's Celebrated Case Turns Against Special Policeman—Shooting at Automobilists Declared a Crime.

Shooting at motorists will no longer be one of the playful pastimes of Frank H. Moor, the special policeman of Glencoe, Ill., who on July 11 fired a bullet at the automobile of T. J. Henderson and struck a button on the dress of Miss Buena Stribling, a passenger in the machine. Moor has been declared guilty of assault with intent to do bodily harm and is now awaiting the outcome of his attorneys' efforts to get a new trial before receiving the pronouncement of his punishment from Judge Mack.

The trial took place in Glencoe last week, and after the evidence was all in, the jury took five hours to come to a decision. It is understood that almost half the jurors wanted to bring in a verdict that would have more serious consequences for the defendant, as he had been charged with assault with intent to kill. Moor, on his first arraignment before the local magistrate at Glencoe right after the shooting, was exonerated, but the state attorney's office took up the case with the result that it was brought before the grand jury, where an indictment was obtained.

Miss Stribling, who so narrowly escaped death from Moor's bulet, was one of four occupants of Henderson's car as it was passing through the town. The officer called upon Henderson to stop, on the ground that he was violating the speed ordinance, but Henderson refused to do so. Moor then took three shots at the machine with the purpose, he declares, of puncturing the gasolene tank. But the shots went into the woodwork of the tonneau instead, one of them striking Miss Stribling in the back, but being harmlessly deflected by a large button. The tonneau itself was exhibited in court.

In his defense Moor asserted that he was an expert revolver shot and that he could kill running rabbits at 100 yards with the pistol, so that he had felt safe in shooting at the gasolene tank. Furthermore, he said that the village attorney had advised him to shoot in case automobilists would not stop.

The trial made it clear that neither village constables nor officers of any other description have the right to shoot at a misdemeanant, or to throw clubs or commit other like assaults. A police officer many only shoot at a felon, and then only where there is grave danger of the latter's escaping. Exceeding a speed limit is a misdemeanor, according to the prosecution, and a policeman who shoots at an automobile party is as much liable to the law as any private citizen.

The case has become one of the most celebrated in the local history of motoring, because of its connection with the war waged by the Chicago Automobile Club against the town authorities of Glencoe for the maintenance of a system of trapping motorists, which was alleged to be unlawful.

Philadelphia Presses for Motor Bus Taxes.

Accused of owing Philadelphia from $6,500 to $10,600 for municipal licenses and pavement tax, the Auto Transit Co. of that city, which has been operating motor buses on Broad street, is threatened with legal proceedings which will stop the running of the machines. Under the law it is necessary that licenses be taken out every year, at the rate of $100 for each omnibus, which for the 25 machines operated by the company amounts to $2,500. It is alleged that no licenses have been taken out by the company for this year, the last payment being in July of last year for the 1907 period. In addition to the license charge the company is obliged to pay 2 cents per square yard per annum for each square of paved street on which its buses operate, which amounts to about $4,000 or $8,100 for the current year, according to how it is figured. The city claims that the charge should be for the whole width of the street, while the company maintains that the charge should only be for the side strips where its machines run, and not for the center. The city, however, has given official notification that the company must pay at least the smaller amount at once or its vehicles will be stopped. Peter J. Hughes, president of the company, intimates that a reorganization will take place shortly.

Interurban Wheel Tax Agreement.

Since both Evanston and Chicago, Ill., have recently instituted the collection of a "wheel tax" on all vehicles in their borders, several owners who divide their time between the two have been put in the position of having to pay in both places. Their indignation at having to pay a "wheel tax" in even one place was of considerable warmth, but the prospect of having to contribute to both municipalities brought it to an extreme temperature. Matters have been fixed, however, so that Evanston and Chicago will hereafter acknowledge each other's tax tags, so that the owner who has paid in one place will not be required to pay in the other.

Charlotte Refuses to Banish Garages.

If Alderman Chambers, of Charlotte, N. C., could have his way all the garages in town would have to move outside the municipal fire limits. He introduced an ordinance to that effect before the board of aldermen, but the latter, at a meeting on the 2d inst., rejected it promptly as too severe. The board indicated, however, that it will shortly pass a set of regulations governing the conduct of the local garages.

ENFORCING MASSACHUSETTS LAW

Highway Commission Deals with Sixty-Two Cases in Four Months—How Offenders Were Dealth With.

In explaining the work of the Massachusetts Highway Commission in regulating licenses in the State, Colonel William D. Sohier, a member of the commission recently reviewed the hearings before the commission together with their results. "During the four months of July, August, September and October," he said, "the Highway Commission has given 62 hearings in automobile cases. Eleven of these hearings related merely to the reissuing of licenses which had been revoked or suspended for various causes. There were eight hearings on the complaint that automobiles were going too fast around corners, two for not stopping when signalled by an officer, seven for improper operation, generally for passing upon the wrong side or crowding in between teams. Five complaints were because the automobile was taken out without the consent of the owner, and in all of these the license of the chauffeur was revoked. There were five hearings on complaints of reckless operation.

"The law in Massachusetts now provides that when death ensues from an accident in which an automobile is involved, the license of the operator shall be suspended and shall not be reissued unless, after investigation or upon a hearing, the commission determines that the accident happened without serious fault on the part of the operator. Eight licenses have been suspended under this statute and there have been only three hearings requested. In two of these the license was returned, as it was evident that the operator was without serious fault; one was refused, and no application for reissue has been made on the part of the others."

Movement to Check Glass Throwing.

Big posters announcing a $25 reward for the arrest and conviction of persons throwing or leaving glass or nails in the public highway are being distributed and pasted up by the New Jersey Automobile and Motor Club, of Newark, N. J. All of the garages are being supplied and the bills are also being prominently displayed at conspicuos places not only on the city streets, but on roads in the surrounding country.

Motor Cars Link Two Texas Towns.

Denton and Krum are glad that automobiles were invented. They are two Texas towns, which after long pleadings in vain for a connecting railroad, now have a motor vehicle line which links them. Dallas capitalists are back of the enterprise.

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$25,000,000 ASKED FOR ROADS

Bill Providing for System of Trunk Highways Introduced in Vermont Legislature—Outline of the Plan.

An appropriation of $25,000,000 is being asked of the Vermont legislature for a series of trunk highways through the State. The bill has been introduced by Representative Howe, of Bennington, and has the strong support of all the automobilists. His plan provides for two main highways running north and south the entire length of the State and six intersecting lines running east and west. One line would start at Pownal, on the Massachusetts State line, and run through Bennington, Rutland, Addison, Chittenden and Franklin counties, touching the more important places, such as Bennington, Manchester, Rutland, Middlebury, Vergennes, Burlington and St. Albans. Another would start at Vernon, on the southeastern boundary, and follow the Connecticut river as far as Barnet, then branching off through St. Johnsbury, Lyndon and Barton to Newport.

One cross line would run from Bennington to Brattleboro, another from Manchester to Springfield, a third from Poultney to White River Junction, the longest one from Burlington along the Winooski valley to Montpelier, thence through Orange county to White River Junction; the fifth from Burlington through Lamoille county to St. Johnsbury and Lunenburg, and the sixth from Alburgh, in Grand Isle county, across the northern part of the State, through Richfield, Troy and Newport, to some point on the New Hampshire line.

The original plan for this system of roads was advanced some years ago by Dr. W. Seward Webb, of Shelburne, but at that time it evoked considerable opposition from the farmers on the ground that Webb wanted it simply as a means for getting better roads for his coaching parties, of which he was known to be very fond. Similar objections that motorists will be the chief beneficiaries are being made at present, but the agricultural interests as a whole seem well disposed toward the plan. Howe's bill provides for the expenditure of $150,000 a year until the roads are completed.

Kulp Held to be Very Culpable.

Imprisonment as well as a fine was imposed on Ellis H. Kulp, a demonstrator for a New York automobile concern, in the court of special sessions last week. The sentence was for 20 days in the city prison and the fine was $150. The severity of the sentence was due to the fact that after being arrested for speeding, Kulp twice escaped the motorcycle policeman and tried to run away. His first dash for liberty was in Van Cortlandt Park, where he was caught and held up at the point of a revolver. After apparently surrendering, he again started his car at full speed, leaving the policeman in the lurch. He was finally captured the second time and taken to jail by force. Simon R. Weil, who was in the car with two women, made an affidavit to the effect that in trying to get away, Kulp drove so fast that the women became hysterical. This affidavit, together with letters from Commissioner Bingham and the Automobile Club of America, asking that Kulp be made an example of, were read to the court before sentence was passed.

Demands Enforcement of "Lights" Law.

Enforcement of the ordinance passed ten years ago in Chicago through the efforts of the cycling clubs and requiring all vehicles to carry lights at night, is being sought by the Chicago Motor Club. The ordinance has never been enforced so far as horse drawn vehicles are concerned, but the club thinks that it should be, as many accidents of recent date are directly due to the fact that wagons and buggies have been without lamps. Carl J. Metzger, chairman of the grievance committee, will undertake the work of compelling the city to see that the ordinance is lived up to and also that the rules of the road, as set forth by Chief of Police Shippy are observed by horse drivers. It is Metzger's idea to oblige all vehicles to carry both side lamps and a red light in the rear.

Automobile Club Improving Streets.

When the citizenry of Galesburg, Ill., see a few of their streets being relaid with the most modern concrete pavement in place of the present rough succession of bumps and mud holes which now exist in some parts of the municipality, and learn, further, that the new pavement is not costing the city government a cent but is being paid for by the Galesburg Automobile Club—perhaps they will feel kindly toward motorists and will be shamed into putting the balance of the pavements in such good order that cars may go back and forth on them without risk of damage. At any rate, the club has it all figured out that way and is circulating a subscription list among its members and some of the property holders, to carry out the plan.

Springfield Club May Establish Traps.

Hinting to visiting tourists that they should "be good," the Automobile Club of Springfield, Mass., has printed cards for display in hotels and garages calling upon all motorists to use the highways in a safe and sane manner. It is pointed out that failure to observe the request will result in the establishment of speed traps by the club. Upon their own initiative the directors of the club have decided that this the the only alternative, and they are preparing to put such a plan into action unless the warning notice takes effect.

JOYLESS END OF JOVIAL RIDE

Taximeter Cabby's All-Night Job Results in Sensational Shake-Down—Tires and Passengers "Busted."

Having carefully schooled himself in taximeter cab drivers' etiquette, such as never looking back to see what his passengers are doing, never being surprised at anything, and never expressing complete satisfaction with the tip, Pat Shields felt qualified to range New York City as the real thing, particularly as he had a shining new machine. Upon driving up to the curbstone to take his stand he was hailed by three jovial visitors from Center Moriches, L. I., whose uncertain legs were hardly capable of heavy transportation service for the rest of the evening. They piled in and told Shields to keep going and show them the town. Frequent tappings on the glass instructed him to pull up with equal frequency before brilliantly lighted entrances where good cheer and carelessness in a variety of liquid forms and an equal variety of enticing combinations, were bought as so much per round.

As the white milk bottles began to appear on window ledges and steps, the cab whirled uptown, toward the all-night gaiety resorts near 110th street, the upper boundary of Central Park. The machine ran along the western side of the park, until the jovial visitors insisted that Shields turn in at an entrance gateway that appeared. With a swerve that sent the unsteady passengers in a heap to the floor, the driver headed through the gate, into the park blackness, and after a moment of smooth running the cab leaped out into empty space. Its flight was brief, however, and the heavy machine came down with a bump that burst three tires, and continued to pound its way down to the bottom of the broad flight of stairs which Shields had mistaken for the road. Shields was knocked from his seat and the passengers were shaken out, one by one, on the stone steps, later gathering themselves up in a flower bed into which they had rolled. The cab disappeared over the roadway and across a lawn, and while Shields went looking for it, the visitors, with arms about each other's necks, stumbled toward a distant white light corner. There it was that the driver later found them, drinking champagne and hailing his appearance with joy. He did not want wine opened in honor of his being alive, but demanded $20 fare. His passengers said he had shaken them down enough already, and compelled him to take them to the police station. Shields related his trouble and said that $20 would not even cover the cost of the tires that had burst, but the good offices of the police sergeant finally induced him to accept the trio's remaining $11 and to let it go at that.

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The Week's Patents.

895,030. Spark Plug. James Lang, Cavalier, N. D. Filed Nov. 25, 1907. Serial No. 403,774.

1. A spark plug of the character specified, comprising an outer casing, formed at its inner end with a laterally extending finger, a central tube arranged within the casing, the outer end of the tube being screw threaded and projecting beyond the outer end of the tube to retain the same in position, a sleeve of insulating material arranged between the casing and tube, the outer end of the sleeve being formed with an out-turned flange to engage the adjacent end of the casing, a central conducting core extending longitudinally through the plug, the inner end of the core being formed with a laterally extending finger, a sleeve of insulating material arranged between the conducting core and tube, and electrical connections for connecting the spark plug with a source of energy.

895,111. Vehicle Wheel. Nicholas Schenk, St. Louis, Mo. Filed Dec. 22, 1906. Serial No. 349,039.

1. A vehicle wheel comprising a hub, an inflated tube located upon said hub, plates located on each side of the inflated tube, a solid rubber tire supported by the plates, rollers carried by the plates to be adjusted to contact with the tube and means for imparting motion to the rim to coact with the movement of the hub, substantially as specified.

895,127. Vehicle Wheel. Gabriel G. Trannoy, Charenton, France. Filed May 31, 1906. Serial No. 319,633.

1. A vehicle wheel comprising a rim portion having side members projecting inwardly around it and spaced apart to produce a chamber between them, a hub having a disc-like member projecting in annular arrangement from it and fitted for edgewise sliding movement in said chamber, springs affording connection between said disc-like member and the rim portion, said disc-like member being of less thickness than the chamber between the side members, and wearing plates of anti-friction metal held upon and projecting from the opposite faces of the disc-like member and contacting with the inner faces of the side members to hold the disc-like member out of contact with said side members.

895,113. Shock Absorber. James A. Scott, Los Angeles, Cal. Filed April 11, 1907. Serial No. 367,704.

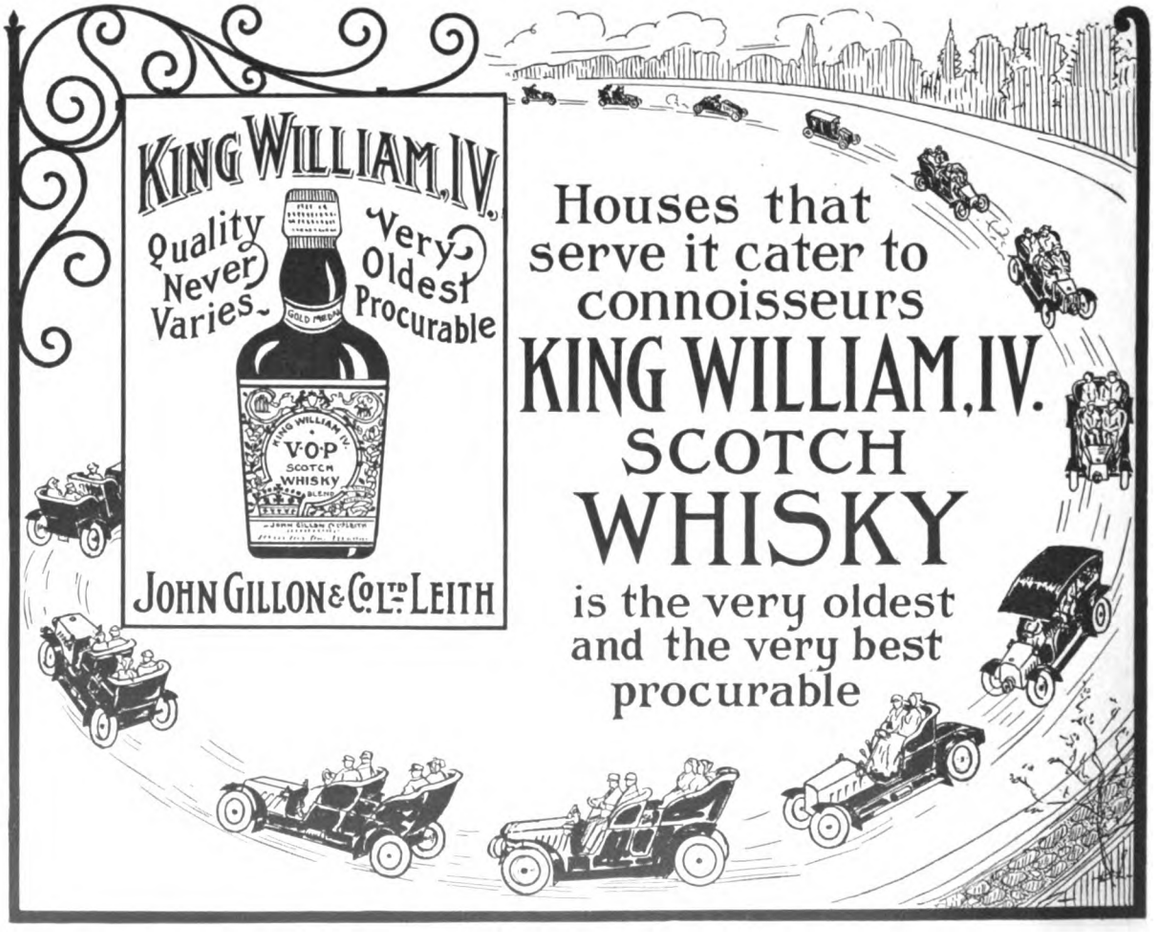
1. A shock absorber comprising a pair of concentric non-revoluble conical discs, a rock arm having a hub conically recessed in opposite sides and lying between said discs, a washer between each disc and the adjacent conical recess of the hub, yielding means for contracting the space between the discs to produce the desired pressure between the washers and hub and discs, said discs being supported by one of the relatively moving parts of the vehicle, and a cushioning link connected at one end to the end of said rock lever and at the other end to the other relatively movable part of the vehicle.

895,225. Spark Plug. Willis L. Ash, Lansing, Mich. Filed Oct. 11, 1905. Serial No. 282,244.

1. A spark plug embodying an insulator, an electrode having threaded ends extending through an opening provided therefor in said insulator, a cap having a closed end and formed with a threaded opening receiving one end of said electrode, a sparking point projecting beyond the outer face of said closed end, said cap at its open end being formed with an annular cup shaped recess which merges into said threaded opening of the cap whereby a downwardly hanging protecting flange is formed an elastic cushion seating in the said recess, a second cap having an opening through which the opposite end of said electrode passes, an annular dish shaped spring washer perforated and receiving said insulator and disposed between the last named end of the insulator and the end of said second cap, and a securing nut on the electrode bearing against said second cap.

895,245. Elastic Suspension for Vehicles. Claude L. Le Duc and Louis Garchey, Paris, France. Filed June 18, 1906. Serial No. 322,296.

Boxes for the elastic suspension of vehicles which leave the body of the carriage free to displace itself in any direction serving merely to limit and weaken the displacements of the body, comprising in combination a box rigidly connected with the axle, a cross bar rigidly connected with the body of the carriage, traversing said box, discs fixed to the upper and lower surface of said cross bar inside the box, segments forming ball bearings, vertically arranged on the periphery of the piston formed by the two discs, balls in said bearings running on the inner surface of the box, elastic means between the segments and the cross bar and elastic buffers between the upper cross bar disc and the top plate of the box on the one hand and between the lower cross bar disc and the bot-



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tom plate of the box, substantially as described and shown and for the purpose set forth.

895,542. Transmission Gear. James F. Duryea and William M. Remington, Springfield, Mass., assignors to Stevens-Duryea Company, Chicopee Falls, Mass., a Corporation. Filed July 15, 1907. Serial No. 383,772.

1. In a sliding gear transmission mechanism a casing, sliding gears mounted therein, a gear sliding lever having forked arms, the spread of which is greater than the diameter of one of the sliding gears, there being an opening through the casing inclosing the gears through which said lever may be dismounted from its bearing, whereby it may be passed over one of the gears with which it engages to remove it from the casing.

895,554. Vehicle Wheel. Andrew Graff, Wellington, Kan. Filed April 16, 1906. Serial No. 312,027.

1. A vehicle wheel having a helical rim which is wrapped with a small gage wire fitted in the spiral channel formed between the whirls of the helix.

The best way to learn why the majority of motorists use Splitdorf Ignition is to equip your own car with it.

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MAGNETOS
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4-40 Roadster. Price, $3,000.
that made the run from Philadelphia to Savannah, Ga., March 5th to 18th, through mud up to the radiator, beating all previous records.
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Pneumatic Tires
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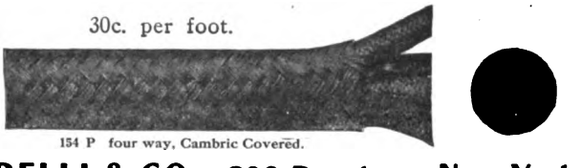
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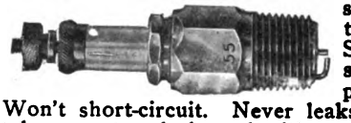
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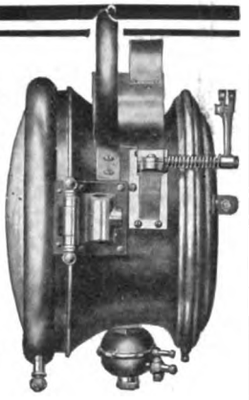
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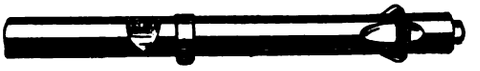
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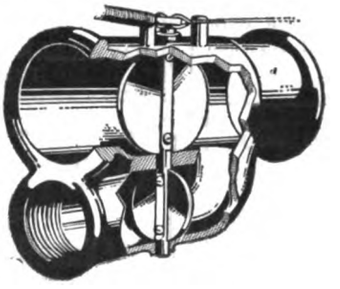
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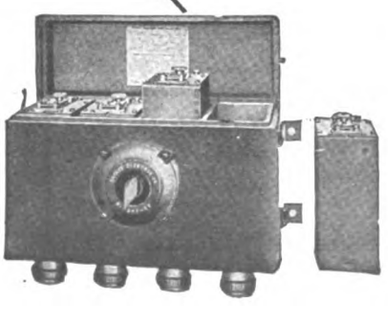
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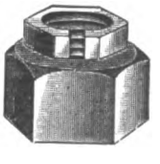
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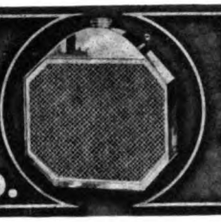
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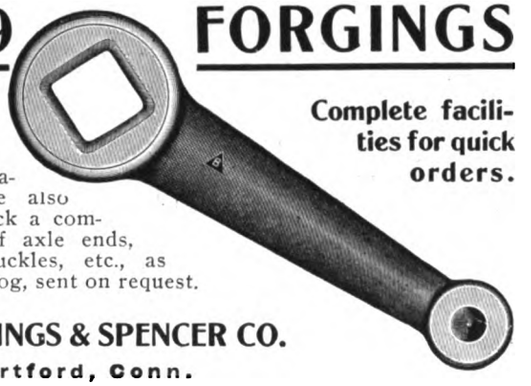
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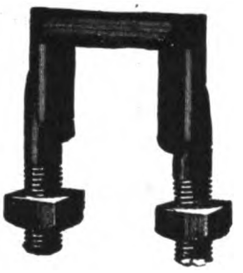


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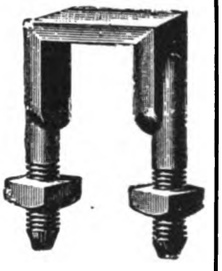
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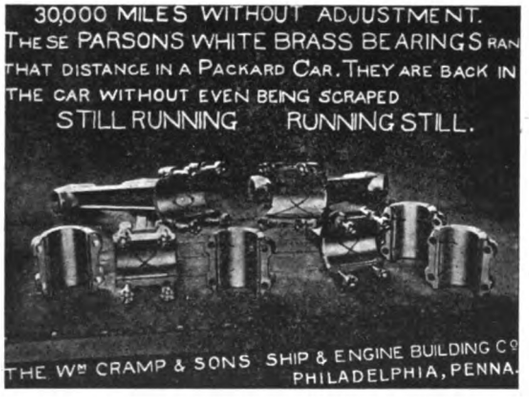
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THE STARK ROLLING MILL COMPANY, CANTON, OHIO

Model B—Brush Runabout

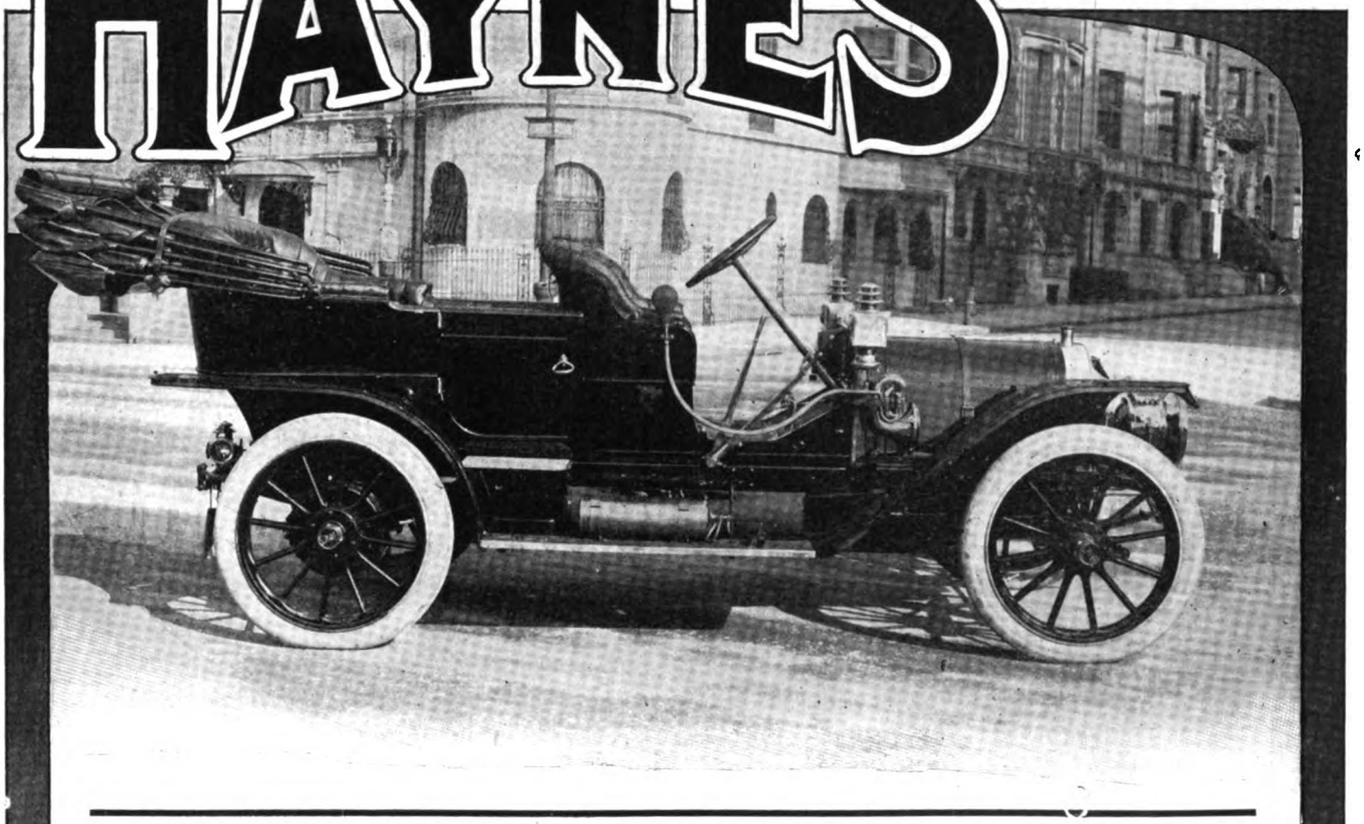
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Its records and the opinions of its users speak more loudly than self praise. Agencies for 1909 are being closed rapidly. Much good territory still open.

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Haynes cars run. They always run. In the agents' parlance they "stand up."

Dive into the Haynes mechanisms and you will see why.

There's a clutch that is really jerk-proof, working like a contracting band brake, metal to metal, so that you cannot convey a shock to the motor if you try. That means long motor life.

No leather to renew on the clutch—long clutch life.

A ratchet in the gears preventing stripping—long gear life.

Brakes water-cooled, non-burning—long brake life.

A unique direct drive system that saves wear, friction, thrust and noise and solves the old rear axle problem. Long life there.

Solid, substantial construction all over—long life all over.

No wonder the two Haynes cars were both among the five that won perfect scores in the great Chicago Motor Club Reliability Run.

The Haynes always makes a perfect score.

AGENTS!

Do you realize what such facts mean to you? Your profits are not eaten up by efforts to keep the cars running after they are sold.

And when the result of a big Reliability Run is telegraphed to every paper in the country with Haynes Perfect Scores always sticking up in the record like the proverbial sore thumb—do you see where you get off if you have the rights in your territory? We're ready to talk business.

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FEDERAL TIRES

1909 Announcement

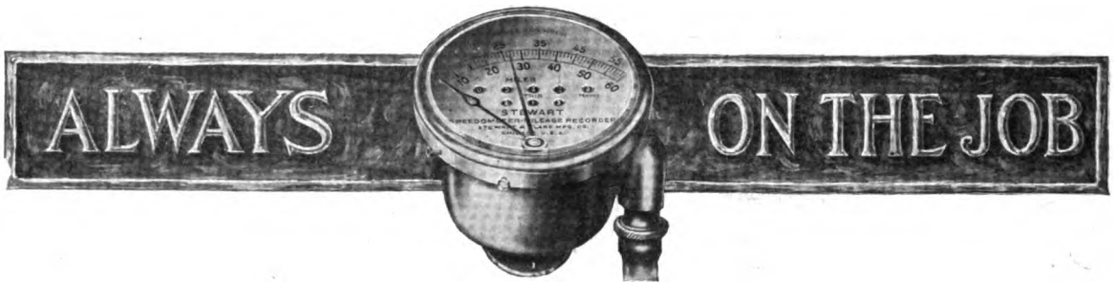
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The famous Stewart Flexible Shaft and patented Swivel Joint are used on all Stewart Models at $40, $25 and $15. We don't sacrifice quality to make price. Our $15 instrument includes an Odometer and has the same shaft and swivel as used on our $40 model

Our instruments are complete and guaranteed for five years

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Stewart & Clark Manufacturing Company

509 Diversey Boulevard, Chicago, U. S. A.

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"Ready for the Road"

AND

TRUE TO ITS NAME

"JEWEL"

40 H. P. and COMPLETE $3000

¶ A suggestion of its completeness:

Rutenber motor, Bosch magneto and battery; selective transmission; platform spring suspension; Hartford shock absorbers; best grade Timken axles with Hedgeland equalizer; 36-inch wheels, Diamond tires, 4-inch front, 4½-inch rear; full top and wind shield; complete lamp equipment, with large size Prest-O-Lite gas tank; extra tire holders, etc.

¶ Sounds a lot for the money and it *is* a lot for the money. We have pride in our product, which is limited, and practically no overhead expenses. We have got right down to earth and put together the best car we know how, with every part of standard material that can be purchased anywhere.

¶ There isn't any guess-work in the Jewel car.

¶ There wouldn't be any guess-work in the mind of any honest agent who aims to give his customers the most he can for the money.

¶ There's a lot of honest agents, too, whose business we can't handle—for, as stated, our output is limited. To the few who speak quick enough, we'll offer an attractive proposition and we'll make good on everything we say. Try us.

FOREST CITY MOTOR CAR CO.
MASSILLON, OHIO

THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

$2000

Touring Car Roadster
Limousine Landaulet

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.
ROCHESTER, N. Y.
Member A. L. A. M.

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"Firestone"

PNEUMATIC TIRES

"The Tires of Sterling Quality"

We might tell you that Firestone Tires are made of the finest Up-River Para Rubber and tough fiber Sea Island Cotton fabric—but that wouldn't interest you half so much as the fact that a Firestone will outwear the tires you are now using and give you better service.

A new Firestone on one rear wheel and a new tire of your present make on the other will tell the story beyond dispute. Then you will soon have all Firestones—we know, because we make them.

FIRESTONE TIRE & RUBBER CO.

Factory and General Offices, Akron, O. **Branches and Agencies Almost Everywhere**

The Largest Automobile Supply House in America

WINTER SUGGESTIONS

We have a large line of Leather Clothing, Caps, Gloves, Wool Vests, Wool Boots, Ways Mufflers, Storm Coats, Lap Robes, Etc.

ARGYLE AUTO BOOTS

Worn over Shoes for Comfort in Cold Weather Motoring.



The ARGYLE Auto boots are designed to give the motorist's feet complete protection from the elements during winter weather motoring. They are worn over the ordinary shoes and can be pulled on or off very readily. They will keep your feet warm and dry during the longest ride in coldest weather. You cannot realize the comfort they give in frigid weather, till you have worn a pair.

Every man, woman and child who motors in cold weather needs a pair of ARGYLE Auto Boots, no matter whether the time of exposure is a half hour or a whole day.

They are made of fine flexible leather, have strong leather Goodyear welted soles and are warmly lined throughout with genuine lambs-wool.

Made in all sizes, with long or short leg. Length of the long leg is 13½ inches,, and the short 10½ inches.

PRICES:

Long, per pair $9.00
Short, per pair 8.00

NO. 19 AUTOMOBILE GAUNTLET GLOBE



This illustration shows our No. 19 Gauntlet Glove, which is a black, seamless knit lined Automobile Gauntlet with extra large flexible cuff with 2 fastenings. This Gauntlet is made from the best selected imported black cape leather. It has a 7-inch Gauntlet with extra large cuff, 20 inches in circumference, which may be adjusted to smaller sizes. The cuff is lined and is guaranteed not to crack, and is stitched with genuine silk.

It will also be noted from the illustration, that the wrist is fitted with an elastic band, which will keep the Gauntlet tight, and comfortable on the wrist, and prevent it slipping down over the fingers.

The cuff is also flexible, and can be rolled into a small space, as shown in the small illustration, for carrying in the pocket. This is the finest Gauntlet Glove on the market.

Price, seamless knit lined, per pair $3.50

CATALOGUE MAILED ON REQUEST

CHAS. E. MILLER, Manufacturer, Jobber, Exporter and Importer, MAIN OFFICE: 97-99-101 READE STREET, NEW YORK

BRANCHES—54th St. and 8th Ave., New York; 202-204 Columbus Ave., Boston, Mass.; 318-320 N. Broad St., Philadelphia, Pa.; 227½-229 Jefferson Ave., Detroit; 1829 Euclid Ave., Cleveland, O.; 1392 Bedford Ave., Brooklyn, N. Y.; 824 Main St., Buffalo.

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IT WILL PAY YOU TO INVESTIGATE

THE **1909** *National*

THE LINE IS BETTER AND MORE COMPLETE THAN EVER

Model 9-35, 4-cyl., 4¾ x 4¾,	**5-passenger Touring Car . . . . .**	**$2,750**
Model 9-40, 4-cyl., 5 x 5,	**5-passenger Touring Car . . . . .**	**$3,700**
Model 9-50, 6-cyl., 4½ x 4¾,	**7-passenger Touring Car . . . . .**	**$4,200**
Model 9-60, 6-cyl., 5 x 5,	**7-passenger Touring Car . . . . .**	**$5,000**

Each National has the well-known National Ball-bearing Motor with new crank case oiler, two ignition systems (Bosch Magneto and Storage Battery) and all other tried and proven features of high grade modern motor car construction. Any of the above models can be furnished with Baby Tonneau body or as a Roadster.

Write for distributors terms and full particulars.

NATIONAL MOTOR VEHICLE CO., 1007 East Twenty-Second St. INDIANAPOLIS, IND.

Here is a big point in favor of

MORGAN & WRIGHT TIRES

They are built with a carcass (the fabric foundation) strong enough to permit of two or three re-treads.

Every motorist appreciates the saving this means to him in his yearly tire bill.

☞ But it takes an **unusually** long time to put Morgan & Wright tires in a condition to **need** re-treading.

And, in addition, their **first cost** is actually no more than you are obliged to pay for other brands.

Try them !

MORGAN & WRIGHT, DETROIT

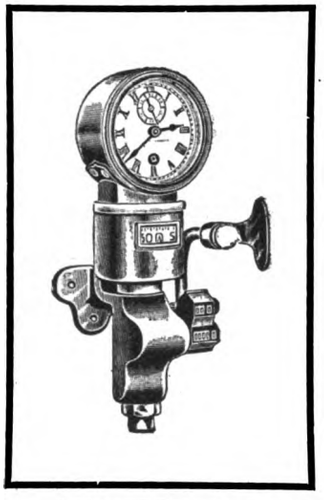
BRANCHES, AGENCIES OR DEALERS EVERWHERE

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SUPREME FROM COAST TO COAST!

THE WARNER AUTO-METER

Demanded Wherever Autos Are Used!



IN THE EAST

Sweepstakes Races

Four of five of the winning cars depended on Auto-meters. Here are the winning cars all equipped with Auto-meters. Nassau Sweepstakes, Buick, driven by Hugh Easter. Jericho Sweepstakes, Chalmers-Detroit, driven by W. R. Burns. Motor Parkway Sweepstakes, Isotta, driven by Herbert Lytle. Meadow Brook Sweestakes, Allen Kingston, driven by H. Hughes.

MIDDLE WEST

Chicago thousand-mile endurance run

Four of five winning cars relied on Auto-meters. On the two Haynes cars which finished with perfect scores the Auto-meters varied only $\frac{1}{10}$ of a mile each. A wonderful performance in a thousand mile run.

IN THE WEST

Los Angeles twenty-four hour run

Six of the seven cars that entered, and those that finished first, second and third, all were equipped with Auto-meters.

The winning drivers knew beforehand the Auto-meter could be relied upon under the most trying conditions of weather or track.



The Warner Auto-meter is the speed gauging instrument which is indorsed by the leading automobile manufacturers, famous drivers, and the elite of motordom. It was used on the Thomas Car in the great New York to Paris Race.

The Glidden Tour Pathfinders and Route Makers always use the Auto-meter when laying out their routes. They accept the Auto-meter's record because they know its authority.

The Auto-meter has won its way to supremacy because in its **construction, quality, accuracy, reliability, endurance,** and **dependability** is more of a consideration than a concession in price.

Write for catalog explaining **why** it is the authority on speed and distance.

Warner Instrument Co.

Factory and Main Office

307 Wheeler Avenue : Beloit, Wis.

Philadelphia, cor. Broad and Race
San Francisco, 550 Golden Gate Ave.
Indianapolis, 330½ N. Illinois St.

Cleveland, 2062 Euclid Avenue
Pittsburg, 3234 Forbes Street
Boston, 925 Boylston Street

Los Angeles, 1124 S. Main Street
New York, 1902 Broadway
Chicago, 1305 Michigan Ave

Buffalo, 722 Main Street
St. Louis, 3923 Olive Street
Detroit, 239 Jefferson Ave.

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The Value of the AJAX 5,000 Mile Guarantee

is known and appreciated by every individual **AJAX** user. It also finds substantial recognition at the hands of the automobile manufacturer who knows better than any one how vital the tire problem is to the motorist.

No wonder, then, that careful buyers and conservative manufacturers like the **Maxwell-Briscoe Motor Comapny** give to the **AJAX** the largest tire order ever received by a single tire firm.

Incidentally they give to their customers the benefit of the **AJAX five-thousand mile guarantee,** which insures the user against tire worry and gives him a security that no other tire maker can afford.

MAXWELL-BRISCOE MOTOR CO. NO. 2146-T

MANUFACTURERS OF "The Maxwell"

THIS NUMBER MUS APPEAR ON INVOICE

TARRYTOWN, N. Y., 9/19, 1908.

Ajax-Grieb Rubber Co.,

PLEASE SHIP US WITHIN 57th St. & Broadway, N.Y.C. TO VIA

4000 Sets 28" x 3" Ajax Tires Complete.

1500 " 30" x 3" Ajax Tires Complete.

1000 " 30" x 3-1/2" Ajax Tires complete.

750 " 38" x 4" Ajax Tires complete.

Shipment to be made to our several factories, in accordance with instructions to be given later.

MAXWELL-BRISCOE MOTOR CO.,

A. R. Gormully

PURCHASING AGENT

ACCEPTANCE OF THIS ORDER IMPLIES AN OBLIGATION TO FILL OUT AND RETURN FORM BELOW.

The World's Largest Tire Order

Naturally given to the AJAX. Every one of the 29,000 Tires is accompanied by our 5,000-mile Guarantee.

Would you insist upon incurring tire hazard when you can buy **AJAX** tires and **AJAX** tire insurance at the same price at which users of other tires buy tires alone, without any guarantee?

Think this over and write for a copy of our 5,000-Mile Guarantee, also for **"AJAX,"** a magazine published in the interest of makers, sellers and users of rubber tires and kindred products of the rubber industry.

Ajax-Grieb Rubber Co.

Factories: Trenton, New Jersey.

Branches

NEW YORK CITY—N. E. Cor. 57th Street and Broadway.
BOSTON—819a Boylston Street.
KANSAS CITY, MO.—1422 Grand Avenue.
DENVER, COLO.—1529 Cleveland Place.
SEATTLE—1102 Broadway.
SAN FRANCISCO—438 Market Street.
LOS ANGELES—1038 South Main Street.
PHILADELPHIA—316 North Broad Street.
DETROIT—743 Woodward Avenue.
CHICAGO—1418 Michigan Avenue.

Matheson

1909 Prices Reduced $1,000

And the Reasons Why

Heretofore the Matheson Car has been considered the highest priced as well as the highest grade American car on the market.

Millions of dollars worth of these cars have been delivered to customers who could afford to pay the higher price for the best.

Many other purchasers have been persuaded that some of the lower priced cars have been "just as good." Matheson owners who have used other makes of cars have answered that question satisfactorily. Send for their letters, which we have done up in a book.

In order, therefore, to still maintain the unequalled quality of the Matheson Car and at the same time give customers this magnificent car at the price of the cheaper cars, the makers have figured that by doubling the factory output and selling at a much closer margin of profit, the price of the Matheson Car equipped with Touring, Landaulet or Limousine bodies, could be cut $1,000, and the same chassis, equipped with Roadster or Tourabout bodies, cut $650.

Accordingly, the Company's working capital has been increased by $350,000, and after October 11, 1908, the purchaser can buy a genuine Matheson Car, the very finest of all motor cars of either European or American make, at the makers' former prices to the agent or dealer; namely:

	New Price	Former Price
50 H. P. 1909 Touring Car	$4,500	$5,500
50 H. P. 1909 Roadster	4,350	5,000
50 H. P. 1909 Tourabout	4,350	5,000
50 H. P. 1909 Limousine	5,500	6,500
50 H. P. 1909 Landaulet	5,500	6,500

VICTORIES

The great string of Matheson victories in the important speed, hill climbing and endurance contests of the past seasons, in competition with the greatest cars of Europe and America, can leave no room for doubt that the Matheson car has no peer on any market to-day.

GUARANTY

Every Matheson is guaranteed for 365 days. (Notice that most other cars are guaranteed for 60 to 90 days only.)

MATHESON AUTOMOBILE COMPANY

Main Sales Office, 1886-1888 Broadway, New York City

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OLD PHONE
Main 1258

B. W. TWYMAN, General Manager

NEW PHONE
1571

THE MOTOR CAR SALES CO. INC.

INDIANA DISTRIBUTORS
E-M-F
"30"

GENERAL OFFICES
330 NORTH ILLINOIS STREET
INDIANAPOLIS

INDIANA DISTRIBUTORS
Studebaker
GASOLINE—ELECTRIC

Nov. 10, 1908.

ATTENTION MR. PELLETIER

Everitt-Metzger-Flanders Co.,

Detroit, Mich.

Gentlemen:

Referring to the E-M-F Ad. in the Automobile of November 5th, we wish to compliment you on it's get-up. It certainly "hits the nail on the head". While we have not been mentioned among those of the successful E-M-F dealers we do not believe it would be amiss to advise that we have up to date taken deposits and have them safely in the bank on 50 cars and have contracts signed and expect deposits to reach us in the near future on 42 additional cars making a total of 92 sales out of possibly 150 our present allotment. This does not include 50 cars contracted for by the Willis-Haywood-Holcomb Co. retail dealers here at Indianapolis, so out of the 200 cars alloted to Indiana there has already been contracted for 142 leaving us 58 cars yet to dispose of.

Believing that this information will be of interest to you and assuring you that we will be pleased to have you use it as you deem best for the interest of the E-M-F Motor Cars, we are

Yours very truly,

THE MOTOR CAR SALES CO.,

B. W. Twyman

Mgr'

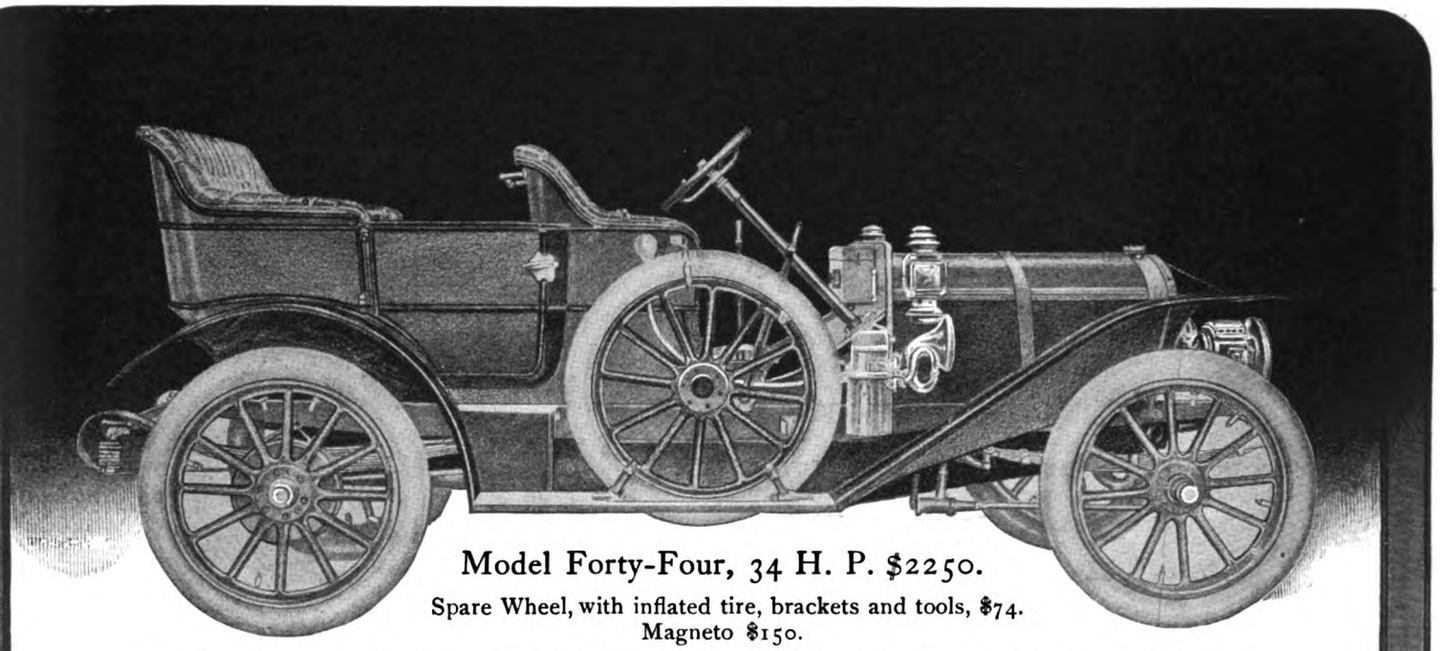
BWT/ES

P. S. Even in the Hoosier State we find very little trouble in selling a good quality of "Blue Sky" as you will note by the above.

Ray - Sorry Twymans name wasn't mentioned, but tell him if we tried to include all the good ones it would take six pages.

Flanders

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Model Forty-Four, 34 H. P. $2250.

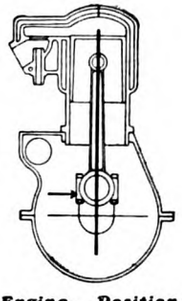
Spare Wheel, with inflated tire, brackets and tools, $74.
Magneto $150.

THE OFFSET CRANK SHAFT

Most automobiles develop sufficient power when they are traveling at a *high* speed. The greatest need is for power at *slow* engine speeds. Rambler Model Forty-Four can be operated smoothly and steadily at *three* miles an hour on *high* gear. This is because of the offset crank shaft.

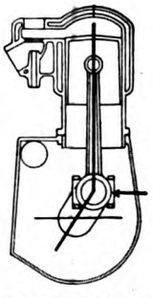
Rambler

The Car with the Offset Crank Shaft



Ordinary Engine. Position of piston at explosion center. **Explosion exerts no turning effort to crank shaft. The dead center wastes energy. Shock falls on bearings.**

How the Offset Crank Shaft is an Advantage



Rambler offset crank shaft. Position of piston at explosion center. **Full power of explosion exerts turning effort to crank shaft. Dead center eliminated. No energy wasted. No shock to bearings.**

Seven passenger model, forty-five horse power with offset crank shaft, $2500. Other models, $1150 to $2500. Write for catalog describing in detail Rambler offset crank shaft, Spare Wheel, straight line drive and other exclusive features of the new Rambler models.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory, Kenosha, Wis.

Branches and Distributing Agencies:

Chicago, Milwaukee, Boston, New York, San Francisco. Representatives in all leading cities.

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, November 19, 1908. No. 8

EXPLOITING POPP'S TAXIMETER

American Business and Patents Bought from French Owners—How the Probable Profits are Figured.

To exploit the Richard Popp taximeter in the United States and Canada, a company capitalized at $1,500,000 has been launched, under the title the Franco-American Taximeter Co., with headquarters at 112-114 West Forty-second street, New York City. Francoin Ducasse has been chosen president. Practically all of the English and French directors of the company are in New York at the present time, conferring with the American directors.

The rights and titles to the American and Canadian patents have been transferred to the new company by the Societe Generale des Compteurs des Voitures, of Paris, which owned the patents for all countries. The French company has already developed considerable business on this side of the water with cab companies and individuals, and such contracts as it has for the rental of the machines, together with the instruments themselves, are turned over with the patent rights. In payment the Franco-American company has agreed to give the French company half of its common stock and $100,000 in cash.

The capital of the concern consists of 25,000 shares of 7 per cent. preferred participating stock, of the par value of $20, and 50,000 common shares at $20 par. It is planned to manufacture 10,000 taximeters which will be rented at an average of $60 per year and the average expense of which will be $20 per year, giving an estimated net profit of $400,000.

Haynes Doubles Its Capital.

Control of the Haynes Automobile Co., of Kokomo, Ind., has been placed in the hands of a stock voting trusteeship for five years, accompanying a reorganization of the company by which its capital stock has been raised from $300,000 to $600,000. With the increase of capital a number of Kokomo investors have taken shares, while in the past the majority of the stock has been owned in Portland, Ind. The trustees selected include H. C. Davis and Richard Ruddell, of Kokomo, and C. C. Cartwright of Portland.

Satterlee Denies Plans for Merger.

Further agitation and rumor concerning the alleged combine of the Maxwell-Briscoe, Olds and Buick interests have brought forth a denial from Herbert L. Satterlee, a son-in-law of J. Pierpont Morgan, and who has been credited with being the prime mover in the negotiations. When asked concerning the probabilities of an immediate combine, he said: "The report is absolutely untrue. I can state positively that the concerns mentioned do not contemplate figuring in any such deal."

Rainier Factory Will Continue.

Jesse Watson, the receiver for the Rainier Motor Co., of New York City and Saginaw, Mich., announces that in spite of the receivership the factory at Saginaw will continue in operation. The 1909 models will be put on the market as originally intended.

Henry Goes with Inter-State.

David W. Henry has become sales manager of the new Inter-State Motor Car Co., of Muncie, Ind. The company's cars, which will be known as the "Inter-State," will be ready about the first of the year.

Syracuse Aluminum Plant Burns.

The Syracuse Aluminum & Bronze Co.'s plant, at Syracuse, N. Y., was visited by a disastrous fire on Tuesday, 17th inst. The conflagration resulted in an almost total destruction of the buildings.

Crescent Removing to Goshen.

The Crescent Motor Car Co., of Detroit, Mich., has decided to remove to Goshen, Ind., and the transfer is now under way. The Cosmo soap plant has been taken.

POPE HEARING PROVES A QUIZZ

Objecting Stockholder's Attorney Puts Receiver Through Long Cross-Examination—Discrepancies Explained.

Apparently alone in his opposition to the reorganization plans for the Pope Mfg. Co., nevertheless Thomas H. O'Connor, of Jersey City, holder of 100 shares of the preferred stock, did not recede from his position, at the special hearing before Vice-Chancellor Howell, at Newark, N. J., on Monday, 16th inst. In support of his contention that the offer of $1,500,000 for the assets of the company is "grossly inadequate," and that the receivers should not be given permission to accept it, his attorney put Receiver Albert L. Pope through a long ordeal of cross examination, in an endeavor to establish discrepancies between the latter's present estimates of the values of the various properties and the appraisal made last May. In his examination, O'Connor's attorney, Willard C. Fiske, pointed out that the appraisers' valuation of the assets was $2,600,000, while the receivers now regard the committee's offer as a liberal one, and declare the total value of the assets to be only about $1,250,000.

In explanation, Receiver Pope took up the items one by one, and also gave an account of the payments that have been made on claims since the first appraisal was rendered, and which have resulted in a corresponding reduction in the assets. He also showed that a difference in estimate occurs when the assets are regarded as "in liquidation" or as those of a "going concern."

As one of the three receivers for the company, the witness testified that it would be difficult to get $500,000 net for the Hartford plant "in liquidation," while $200,000 would be an outside price for the Westfield (Mass.) plant at a forced sale. The company's Thompsonville plant he appraised at $10,000, with the explanation that the company had tried to sell it for five years,

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without getting a bid for it. The estimate, he said, was a fair one.

The Hagerstown (Md.) plant, Receiver Pope went on to tell, would eventually net about $125,000, inclusive of the $57,500 already paid for the factory premises, "if the reorganization scheme should carry." Otherwise, $75,000 would be the outside amount that could be realized. The Pope Mfg. Co.'s claim against the Pope Motor Car Co., the witness estimated, is worth $350,000 at the outside. The stock of the latter company, which is all owned by the Pope Mfg. Co., he said would bring nothing.

Two plants of the Federal Mfg. Co., whose stock is all owned by the Pope company, the receiver estimated might net $50,000. One, at Elyria, O., he explained, has already been sold for $35,000 cash, and the other, at Cleveland, was worth as much. From the aggregate sum of $70,000, he deducted the sum of $19,000, a claim for that sum being in litigation in the Ohio courts.

When the enumeration was completed Attorney Lindabury said: "These several valuations total about $1,250,000. Is it your opinion that $1,500,000 is a fair offer for the Pope company's assets?"

"Yes, sir," the witness answered, with emphasis.

Attorney Fisk, in the course of a long cross-examination, quizzed Receiver Pope about appraisals reported by the receivers at divers times, which were seemingly at variance with the valuations as stated by him on the stand. The witness explained that since the appraisals cited by Fisk were made, $379,000 had been taken out of the assets to pay a third dividend of 25 per cent. to creditors, while $80,000 had been paid in settlement of the Unzicker claim.

Fisk called the witness's attention to a statement in the published plan of the reorganization committee, to the effect that the committee expected to realize enough from the Pope plants, outside of the Hartford and Westfield plants, which the new company would operate, to pay off the $800,000 in notes which it was intended to issue, and asked him how he could reconcile such a statement with the valuations he had just put on the properties involved.

To this the receiver answered that the committee's statement was made in May last, and that since then one property, that of the Columbia Steel Mills, had been sold for $180,000, and the proceeds used in the payment of dividends to creditors, while $250,000 had been taken from assets in the Maryland jurisdiction and used in the same way. The assets, aside from those in Hartford and Westfield, would now no longer suffice to meet the proposed issue of $800,000 of secured notes, and earnings would have to be used to eke out.

In his argument, Fisk pointed out that creditors of the Pope company were not interested, the only ones concerned being the stockholders, and he urged that it was the duty of the court to protect the interests of stockholders, whether great or small. He contended that the Pope company's various plants were worth much more than the price offered, and that to permit the sale would be in effect a summary condemnation of his client's holdings in the concern.

The creditors, however, took a hand in the hearing, and Percy S. Bryant, of Hartford, Conn., counsel for the creditors' committee, urged that the court give permission for immediate acceptance of the offer. "We want to get our money," he said. Although he was present, neither O'Connor nor any witness for his side was put on the stand. Colonel George Pope and Frederick C. Billings, one of the appraisers, were present to testify for the receivers.

No decision was announced by the court after the hearing. It was indicated, however, that a final decision would probably be made in a few days.

Death of George A. Burnham.

George A. Burnham, general factory manager of Morgan & Wright, of Detroit, Mich., was instantly killed last Saturday, 14th inst., while duck hunting on Baltimore bay, near Pearl Beach, Mich. Standing in a skiff after firing one barrel of his gun, Mr. Burnham attempted to lay the weapon back of him in the bottom of the boat. In doing this he held it by the barrel, and the stock of the gun, instead of going into the boat as he had intended, went over the side, where the trigger caught and discharged the second barrel. The entire charge lodged in the back of his head. Although accompanied to the bay by three other officials of the Morgan & Wright factory, none of them was within hailing distance at the time of the accident, the only witness being a young man who was punting the skiff.

Except for one year's service in the Spanish-American war, Mr. Burnham had been with Morgan & Wright continuously since 1893, when he first obtained employment in the bicycle tire department. He advanced rapidly, becoming superintendent, and later factory manager. When the factory removed from Chicago to Detroit, a large part of the planning of the arrangements for the immense new plant devolved upon Mr. Burnham, a work which he accomplished with signal success. He was recognized as an expert and authority on tires, and personally was as affable and companionable as he was able and unassuming. Mr. Burnham was born in Portland, Me., October 1, 1874, and his early youth was spent in Boston. In Detroit he was prominent in automobile circles, and as a member of both the Knights Templar and the Mystic Shrine had a wide acquaintanceship and prominence. He leaves a wife and three children.

Brandt Becomes a Rambler Manager.

Ernest H. Brandt has resigned as general manager of the Detroit-Cadillac Motor Car Co., of New York City, to accept the management of the eastern distributing depot of Thomas B. Jeffery & Co., of Kenosha, Wis. He will have charge of Rambler territory in Virginia, Maryland, Delaware, New Jersey, Pennsylvania east of Altoona, eastern New York State and western Connecticut, making his headquarters in the Rambler building, 38 West Sixty-second street, New York City. Upon the purchase of the Detroit-Cadillac Co. by Inglis M. Uppercu, recently, Brandt was elected secretary and general manager, so that he might continue along the same lines as when he was the manager under the Cadillac Motor Car Co.'s ownership of the concern. The Rambler offer, however, presenting a larger field, induced him to make the change, while preserving pleasant relations all around. He will take about half a dozen members of his former organization with him in the new work.

The Week's Incorporations.

Detroit, Mich.—Ford Motor Co., under Michigan laws. Increase of capital from $150,000 to $2,000,000.

New York City, N. Y.—United States Motor-Cab Co., under New York laws, with $50,000 capital. Corporators—G. Duell, M. Sussman and T. J. Bell.

Newark, N. J.—Cope Co., The, under New Jersey laws, with $50,000 capital; to manufacture automobiles and carriages. Corporators—M. M. Dodd, G. G. Conley and A. Church.

Waterbury, Conn.—W. B. S. Automobile Co., The, under Connecticut laws, with $50,000 capital, $1,000 subscribed. Corporators—Charles S. Woodward, Ira F. Bachelder and Henry Stackman.

New York City, N. Y.—Cameron Motor Co., under New York laws, with $150,000 capital. Corporators—Ernest Stauffer, Jr., Arthur F. Gotthold and Harold B. Elger, 2 Wall street, New York.

Philadelphia, Pa.—Travelers' Garage and Auto Co., under Delaware laws, with $25,000 capital. Corporators—C. R. Calhoun, Philadelphia; G. W. Smith, Jr., Germantown,; J. D. Calhoun, Omar.

New York City, N. Y.—Steam Motor Co., under New York laws, with $25,000 capital. Corporators—John Magee Ellsworth, Henry C. Cryder and Theodore A. Havemeyer, 583 Park avenue, New York City.

Washington, D. C.—Electric Speedometer and Dynamometer Mfg. Co., The, under Delaware laws, with $500,000 capital. Corporators—C. E. Munroe, W. M. Kimball, N. M. Hopkins, K. Woods, C. M. Remey and W. T. Bingham.

New York City, N. Y.—Kayton Taxicar and Garage Co., under New York laws, with $100,000 capital; to manufacture and deal in automobiles. Corporators—E. M. Leventritt, J. F. Jacobs, W. F. Tracy, F. G. Braun and C. J. Heermance.

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GRANTS REBATES ON PARA RUBBER

Bill to Lower Export Duty for Brazilian Syndicates—Foreigners File Protests Against Preferences.

Para rubber trade will undergo a violent readjustment if a recent legislative act of the Para state legislature affecting the exportation of this product is signed by the governor. The new law, which has passed the local chamber of deputies, provides for a rebate of 4 per cent. of the 22 per cent. export duty, to Brazilian syndicates founded under the law of 1903 and recognized by the state government, on fine and medium grade rubber exported abroad directly by such syndicates. The rebate would be made on the basis of weekly averages. Its effect would be to give the Brazilian syndicates a monopoly on the exportation. The foreign houses established in Para could not operate in competition with them, because of having to pay the higher export duty. Strong protests have been presented through the State department at Washington to the Brazilian Federal Government, against this action on the part of one of its states, and the British and Portuguese houses engaged in the trade are also stirring their respective governments to similar representations. The annual export of Para rubber amounts to over 38,000 tons, or almost $60,000,000.

Turns Over Selden Royalty Excess.

Among the chief October disbursements of the receivers of the Electric Vehicle Co., of Hartford, Conn., according to the reports filed for the month, was the turning over of $76,580.41 to the Association of Licensed Automobile Manufacturers, representing Selden patent royalties in excess of the $150,000 per annum maximum which the company is allowed to keep under the terms of the new agreement with the association and its members. Of the $150,000 which it retains, a maximum of $60,000 per year goes to George B. Selden, and the balance of $90,000 to the company itself, this amount having been recently set aside by the court's order for the benefit of the creditors as the company's share in the royalties for the past year.

The receivers' report for October discloses an increased factory activity, the purchases amounting to $23,208.37 as against $9,371.54 in September, and the pay roll being $24,780.12 as against $17,262.67 in the previous month. The balance on hand November 1 was $175,834.28, as against $208,188.46 on the first of October.

Freight Concessions in the South.

Important freight concessions have been obtained from the Southern Classification Committee by the traffic department of the National Association of Automobile Manufacturers, representing also the Association of Licensed Automobile Manufacturers and the American Motor Car Manufacturers Association. A lowering of rates in the Southern States south of the Ohio and east of the Mississippi has been effected, and the concessions also in some instances reduce the through rates to points in the South from points in the Central Freight Association's territory, lying between Buffalo and Chicago, and rates from points east of Buffalo on shipments routed via southern despatch lines.

New Location for Philadelphia Show.

Instead of holding Philadelphia's show in the First Regiment armory as on the past two occasions, the Second Regiment armory has been chosen, being a much larger building, located at Broad and Susquehanna avenue. The event will take place from January 27 to February 3, inclusive, and will be under the management of J. H. Beck, who has managed former shows.

Cleveland Postpones Its Show Dates.

Cleveland's automobile show has been postponed a week from the date originally set. The time now selected is the week of February 22, at the Central armory. The management will not be in the same hands as formerly, having been given to a committee of the Cleveland dealers.

Albany Concern in Receivership.

The Albany Automobile Co., which for a time undertook to manufacture cars in Albany, Ind., has gone into a receiver's hands. The proceedings are before the U. S. Circuit court in Muncie, Ind., where Judge Leffler has appointed the Muncie Trust Co. to act as the receiver.

Goshen Gets a Rubber Company.

The Goshen Rubber & Tire Co. has been organized by Dayton (O.) capitalists. The plant will be located in Goshen, Ind., and is expected to be in operation by the first of the year. It will include the old buildings of the Goshen Rubber Co.

Rider-Lewis to Move to Anderson.

The Rider-Lewis Motor Co., of Muncie, has made arrangements to move to Anderson, Ind., on the first of the year. A new factory in the latter city is being hurried to completion by that time.

Changes Name to Rome-Turney.

The Long-Turney Mfg. Co., of Rome, N. Y., which makes radiators and automobile specialties, has changed its name. It will hereafter be known as the Rome-Turney Radiator Co.

Gilbreath Goes with Oakland.

W. S. Gilbreath has severed his connection with the Waverley Co., of Indianapolis, Ind. He is now with the Overland Automobile Co., in the same city.

TO DROP THE 1909 PARIS SALON

French Makers Signing an Agreement not to Exhibit—Heavy Bond Forfeitures for Violation.

Having tired of the burden and expense of annual shows, the French makers, according to advices from Paris, are signing a general agreement, the effect of which will be to abolish the Paris Salon for the year 1909. The agreement provides that the makers subscribing to it shall not exhibit at any motor show which may be given in Paris during the coming year, under penalty of a forfeiture of 50,000 francs. The signatures of practically all the larger makers —those making over 100 chassis per year— are said to have been obtained already, and the circular will be presented to the smaller makers, as well.

The object to be accomplished is not the complete extinction of the Paris show, but to bring an interval of at least two years between the forthcoming event and the one to follow it, after which the shows may be held biennially, annually or not at all, as conditions may suggest. The fact that a year's time no longer develops changes or improvements of any very striking character in the French models has lead to the belief that the time has come when a show once in two years would be sufficient, being of more interest by reason of the greater length in the intervening period and presenting an economy to the chief participants in such affairs.

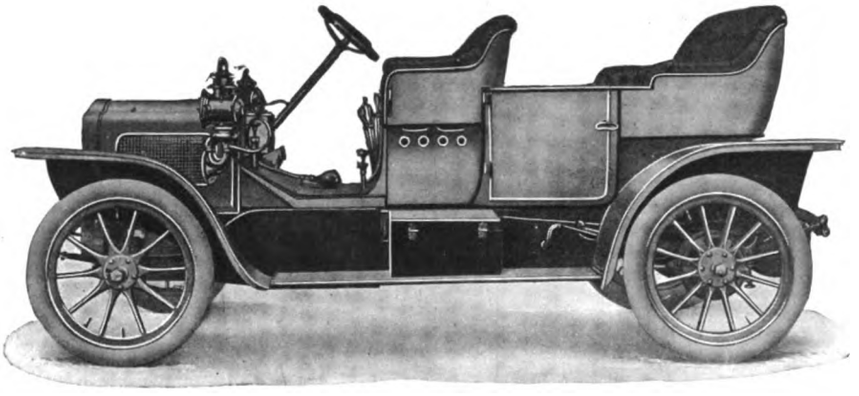
Last year the subject of biennial shows had considerable agitation, but was not carried to the point of concurrence which it now receives. The agreement which is being circulated does not affect the 1908 Salon, except that the makers are being urged to do their utmost to make the this year's show a success because of the prospect of its being the last for two years. If it be deficient in interest or returns, however, the exhibitors will be the more ready to turn to the biennial plan, which now enjoys every likelihood of adoption.

Shawmut Factory is Destroyed.

Fire consumed the factory of the Shawmut Motor Co., of Stoneham, Mass., on the 13th inst., causing a loss estimated at $100,000, of which the Shawmut company's share is given as $75,000. The company carried $42,000 insurance. The plant, a three-story wood structure, located at Kidd and Pine streets, was seen to be in flames shortly after midnight, and burned so rapidly that the efforts of the firemen were unavailing. Frequent explosions of small quantities of gasolene endangered their work. Several finished cars and some in process of construction were destroyed, together with much valuable machinery.

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A WHITE STEAMER FOR $2000!



Not since 1904 have we made a car priced at so low a figure as $2,000. The White—"the car in a class by itself"—has thus been brought within the range of a larger number of purchasers than has been the case in recent years.

The new $2,000 White car, known as our Model "O," has none of the attributes of the "cheap machine." It is simply a "smaller edition" of our $4,000 car. The new model "O" is rated at 20 steam horsepower, which means that it can do the work of gasoline cars rated at much higher figures. The wheel-base is 104 inches; the tires, both front and rear, are 32x3½ inches. The car is regularly fitted with a straight-line five-passenger body. The frame is of heat-treated pressed steel. The front axle is a one-piece forging of I-beam cross section.

The nature of the steam engine is such that the engine of small power has all the desirable attributes of the engine of high power. In other words, as the weights of our small car and of our large car are proportionate to the power of their respective engines, the small car can do anything that our large car can do.

To summarize the features of our new Model "O" car—it is noiseless, odorless, smokeless and absolutely free from vibration. All speeds from zero to maximum are obtained by throttle control alone. The speed of the car responds instantly to the throttle; the engine can never be stalled. The directions for driving are summed up in the phrase, "Just open the throttle and steer." It starts from the seat—"no cranking." It is the ideal moderate priced machine. It is the best for the man who wishes to drive and take care of his own car. It is a result of our nine years of experience in building the White Steam Car—the only machine which finds a ready market in every portion of the globe.

Write for circular giving full details of this car.

THE WHITE COMPANY

CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.

PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.

SAN FRANCISCO, Market St. at Van Ness Ave.
ATLANTA, 120-122 Marietta St.

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NEW YORK, NOVEMBER 19, 1908.

The Rise in Rubber and Its Effects.

Unexpected developments in the crude rubber market have brought about a condition which, taken in conjunction with other industrial conditions have wrought no little disquietude among the tire makers. In fact it has become recognized pretty generally throughout the trade that a combination of high prices, a reputed shortage in the crop and a strong demand on this and allied markets are so endangering the future of the tire industry as to render the advisability of long continuing the present listings a matter of grave question. Indeed after investigating present conditions, the Motor World has no hesitancy in predicting that barring unforeseen contingencies the present prices for automobile tires will be abandoned by the first of next January and a new and higher scale adopted, thus reversing the movement of last August when a general cut in prices was agreed upon by a number of the makers.

That the effect of increasing prices demanded for crude rubber already has been felt abroad is evidenced by the fact not generally known, that two of the largest foreign makers have announced a 10 per cent. increase in price within a few days. In America, following a year of general curtailment in all lines, rubber manufacturers are universally short of stock. With prices for the raw material at low water mark and the market well supplied, they have been buying conservatively and in many instances producing only sufficient finished material to supply the current demand. With the closing in of fall, however, a sharp and continued rise in price has set in, the visible supply has dwindled, and as a final blow it has become impossible to contract for deliveries after the first of the new year.

The present low prices were based upon the conditions existing last summer when the rubber market was in an unusually favorable condition. The prospect of a heavy demand, the general resumption of business in all lines, together with the fact that the upriver fine Para rubber was then selling at 89 to 90 cents a pound as against $1.08 and $1.22—the minimum quotations for August markets in 1907 and 1906, respectively—tempted the makers to reduce their own quotations to a uniform extent.

With the last of September, however, prices had risen toward the figures of 1907, the last of October saw them at $1.03 and $1.04 as against $0.99 and $1.00 a year ago, and reports of the Brazilian market published this week give an authenticated maximum of $1.30, with unconfirmed reports of trading at $1.32, still referring to the upriver grade of fine Para. Other grades have followed the trend in descending scale. Local buying is in moderate amounts only among both dealers and manufacturers.

Foreign markets also are reported as feeling the pressure, and in at least one instance, the "American demand" was mentioned as exerting a strong influence in boosting the prices. That the market may soar to $1.40 by the first of January is far from improbable.

At the same time, other lines of rubber manufacture are beginning to evidence recuperative tendencies with the improvement of business conditions following election, this also tending to increase the agitation, while in the tire market itself the outlook for a prosperous season for the automobile industry tends to encourage plans for production on an increased scale. For the most part the automobile manufacturers are pretty well covered by contracts made at current prices. The increased demand of the early spring induced by the general refitting of cars in the hands of private owners therefore, is the contingency against which the tire makers are now anxious to provide.

About "Going into Politics."

According to one of the New York "auto editors," who, like Senator Frelinghuysen, and so very many other alleged Jerseymen, earns his livelihood in New York, all sorts of things are likely to happen to the New Jersey Automobile and Motor Club for the part it played in the defeat of Senator Colby in the recent election; disruption and the formation of a rival club are among the several dreadful things that are likely to occur.

Because Mr. Colby stands for the New Idea—for a higher order of politics than that practised by the wardheeler and grafter his defeat may be somewhat regrettable, but because of his very high-mindedness and reputation for intelligence and righteousness, the automobilists were justified in expecting not a narrow view, but a square deal at his hands. When he failed to give evidence to this end, he courted opposition and as he received what he courted, he should have small fault to find with his defeat. It was high time that the automobile conscience of New Jersey was quickened. The manner in which the legislature has assumed a stand-and-deliver attitude and picked the pockets of all who use automobiles in the state, is not short of disgraceful.

The New Jersey club performed a much needed public service in directing attention to the fashion in which $14 is extracted from the pocket of even the non-resident who enters the state but once, and to other iniquities of the Frelinghuysen law. It is bad enough for a resident to be compelled to pay for the supposed right to use the public highways, but it is infinitely worse when one state in the union undertakes to issue "passports" and exact what is practically an admission fee from the residents of all other states in the Union, and requires that they shall stop on demand that their "passports" may be examined. It is contrary to the American notion of republican institution and republican government. It is directly opposed to the American notion of a union of states. It is legislation of the narrow-minded and offensive sort.

As Mr. Colby stands for that sort of government it was right and proper that his

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victims and their friends should turn on him. It is to be hoped that they will turn on the Colbys and the Frelinghuysens wherever they may exist. Apparently it is the only way that the victims ever will be able to obtain a square deal. "Going into politics" was the only way the cyclists nearly a quarter century ago obtained their full measure of legislative fair play. They obtained exactly the same freedom accorded other road users and the automobilists should not remain content with less. All they need to do is "knock out" a few more Colbys and a Frelinghuysen or two, and to upset the results at a few precincts or wards in an occasional state. They now are strong enough to do it and it should be done. The news will spread fast enough. Politicians do not squeal unless they are hurt. The squeal from the Colby camp is evidence that the automobilists' work was effective. the fear that Colby may seek revenge in legislative halls which has depressed some timorous souls, need cause no great concern if the men with backbones who led the New Jersey fight let it be known that any attempt of the sort will visit on the parties to it the same sort of treatment accorded Mr. Colby.

As for the New York-New Jersey "auto editor," who is anybody's press agent, his efforts to stir up strife in the New Jersey automobile club well may be discounted. He possesses a small commission from the state and is anxious to hold it. If he really desires to turn the light on anything he might turn a few rays on the late New York-Montauk efficiency run, in which he himself had such a large hand, as according to some accounts. the real reasons why the participants were lodged on an uncomfortable boat when a comfortable hotel was available, will make unusually interesting reading.

Electricity for Car Lighting.

Considering the amount of attention which has been paid to the subject of car lighting, it is somewhat to be wondered at that no more effort has been made to introduce electricity for this purpose. As applied to electric vehicle useage it has proved the unquestionable servicability of incandescent lamps for this purpose when properly made and installed—this being the chief point in doubt as to the general practicability of the system. The only other question, that of its relative expense and ease of maintenance, remains to be solved. But its solution must depend in part on the relative convenience of the three possible systems quite as much as upon their first cost or upon other factors which are involved. For limousine cars the use of interior electric lighting is almost universal. To a limited extent it also is applied in machines of this type to tail-light and dashboard work. Its extension to the field of pleasure cars should be by no means the difficult and unproductive task it may appear.

The continued vogue of the acetylene searchlight has led to so many abuses that its use in cities is now pretty generally frowned upon by considerate motorists. Yet no form of tempered light has been advanced to take its place, so that a majority of the machines in night use about the great cities, are driven with only the insufficient service of the oil dash lamps. These for the most part, serve only the purpose of warning signals, and have no practical value in illuminating the road in front of the machine, which, though it may not be necessary for ordinary city work, yet is an advantage when traversing poorly lighted streets, or when running during stormy weather. The powerful acetylene lights, despite their advantage for work in the open country, are ill-suited to driving under such conditions and at times constitute a source of positive danger, both to pedestrians and drivers of other vehicles, because of the confusion wrought by their blinding glare. Systems of shading these lights, or deflecting their beams have been devised, but for some unaccountable reason have failed to come into general use.

The electric light has the marked advantage over other systems that it requires no trimming, always is ready for use, and gives a soft glow which, by properly proportioning the size of the lamp to the requirements, may be as strong or as mild as may be desired. It is as certain in a high wind, or when the car is being tossed about on a rough road as when it is standing in the garage, is free from all taint of fire risk, discharges no combustible oils or gases in the event of accident, and may be lighted at will without taking the driver out of his seat.

Apparently those most intimately concerned with it are not aware of the real immensity of the automobile industry. Its magnitude just has been made plain by a concern which makes a specialty of selling "representative mail lists," of the various trades to those who are not wholly free from guile. Among many others, it has for sale lists of 819 "auto manufacturers and assemblers," 347 manufacturers of "autos driven by gasolene," 70 "electric automobile manufacturers," 31 "automobile buggy manufacturers," and 69 "auto lamp manufacturers."

COMING EVENTS

November 25, Savannah, Ga.—Automobile Club of America's 200 miles light car race.

November 26, Baltimore, Md.—Automobile Club of Maryland's hill climb, Belvidere avenue hill.

November 26, Savannah, Ga.—Automobile Club of America's 400 miles race.

November 27, Denver, Col.—Colorado Industrial Exposition Association's race meet. Overland Park track.

December 5, Long Island Motor Parkway—Speed trials against time, auspices of the Long Island Motor Parkway, Inc.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show, Madison Square Garden.

January 23-30, Philadelphia, Pa.—Philadelphia Automobile Trade Association's annual show.

February 6-15. Chicago. Ill.—National Association of Automobile Manufacturers' Show, Coliseum and First Regiment Armory.

February 27-March 3, Hartford, Conn.—Automobile Dealers' Association show.

If the Society of Automobile Engineers desires to be accepted seriously and not merely as a medium for personal exploitation, it might risk something more than an eye on the advertisements of the gentleman who is serving as its president. Perhaps he is not using his office for personal benefit and means no harm in attaching his official title to the advertising of his business, but it is such an unusual procedure as to give rise to varied impressions.

Whenever a milkman breaks one of his bottles, he is quite apt to throw the broken pieces out on the pavement. Automobile clubs in various cities are awakening to the fact and it is probable that this class of offenders will be given special attention in the near future.

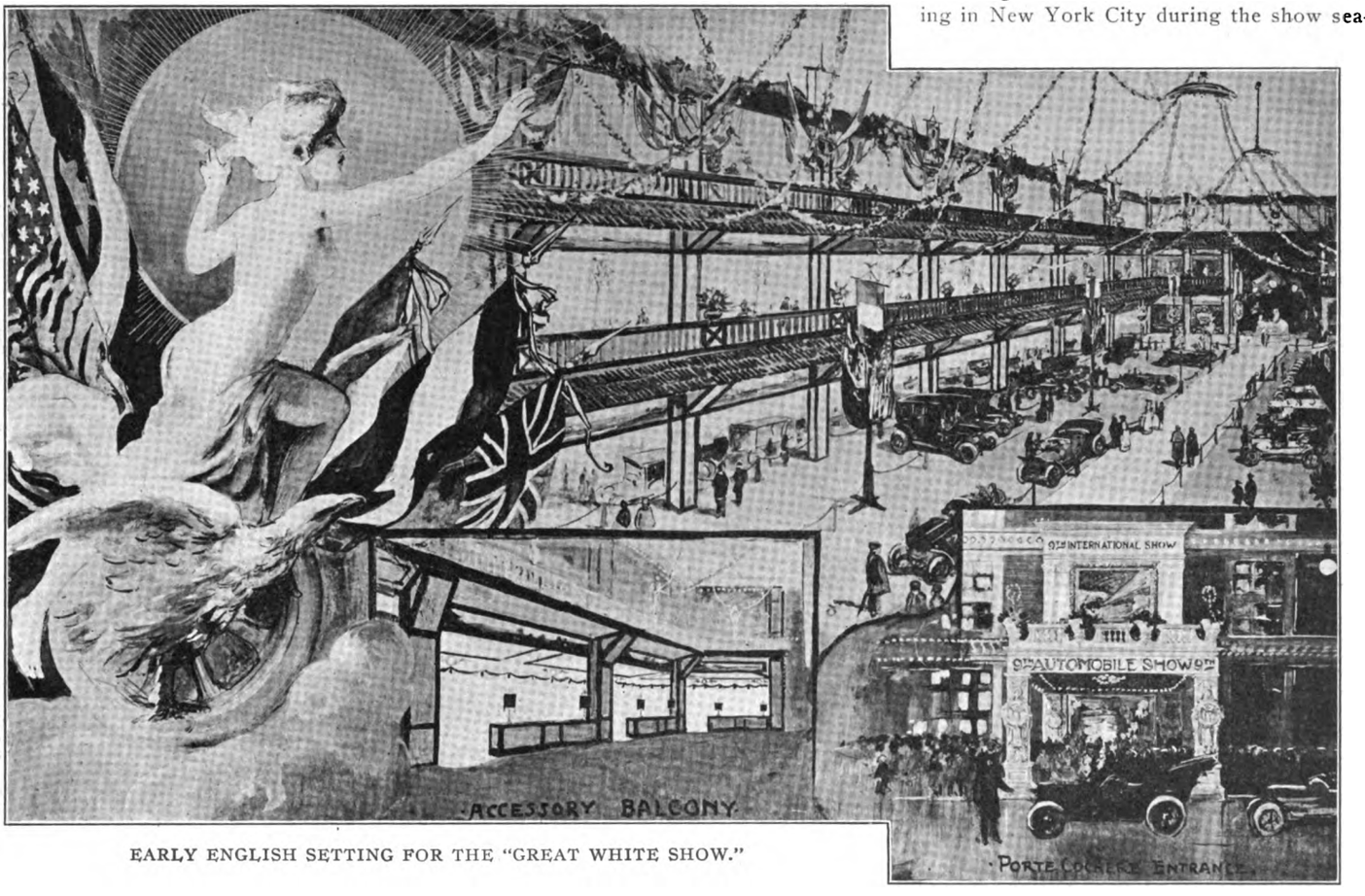
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ART FEATURES FOR PALACE SHOW

Early English Decorative Scheme Adapted to Demand of Exhibitors for Space—Aerial "Extras" Crowded Out.

So great has been the demand for space at the Grand Central Palace show, which opens in New York on New Year's eve, that the exhibits of balloons, aeroplanes, gliders and other aeronautical contrivances which have been an "extra" in the past, will be crowded out entirely to make room for the regular exhibitors. Of the latter there are 75 car makers and about 250 accessory makers, making an aggregation which is claimed to be "by far the largest numbers of exhibitors ever congregated under one roof at an automobile show."

Even the decorations have had to yield to the necessary economy in space, and while sacrificing nothing in artistic beauty, will be on the "sheath gown" order of slimness as far as possible, so that no bulky masses or protuberances will encroach on the area available for the space holders. The work on the decorations is progressing to a point where everything is available for the purpose. As indicated by the illustration presented herewith, they will form a suitable setting for the affair without obtruding on the vital displays of the exhibition.



EARLY ENGLISH SETTING FOR THE "GREAT WHITE SHOW."

Demonstrations of cars will remain as one of the features of the Palace show, it being the belief of the American Motor Car Manufacturers Association that dealers and buyers still find them a valuable aid in determining the running qualities of a car and in judging the advantages of the various control systems. When the question of abolishing demonstrations was presented to the show committee, the representations as to their value and desirability were so strong as to insure their continuance.

In accordance with the policy of giving the affair "tone," the catalog which is to be issued in connection with it will be kept free of advertising. The catalog will contain a complete list of the evhibitors, together with a directory of their spaces and a summary of their products, being in the nature of a handsome souvenir and record of the occasion.

The difficulties of the show committee in providing space for all those desirous of obtaining allotments have been very great, indeed, and have made it necessary to use every nook and corner of the building. "It has been a case of trying to make two feet grow where one grew before," according to H. O. Smith, chairman of the committee. The fact that the exhibits include not only cars of American manufacture, but a number of the famous foreign cars as well, has swelled the aggregate of displays in this class, and the growth in the number of taxicab models which the makers are desirous of displaying has made the taxicab division one of considerable magnitude and importance. Furthermore, the accessory makers have increased in numbers, with no diminution in their respective lines, so that their requirements for room in which to stage their devices to good effect have become greater than in the past.

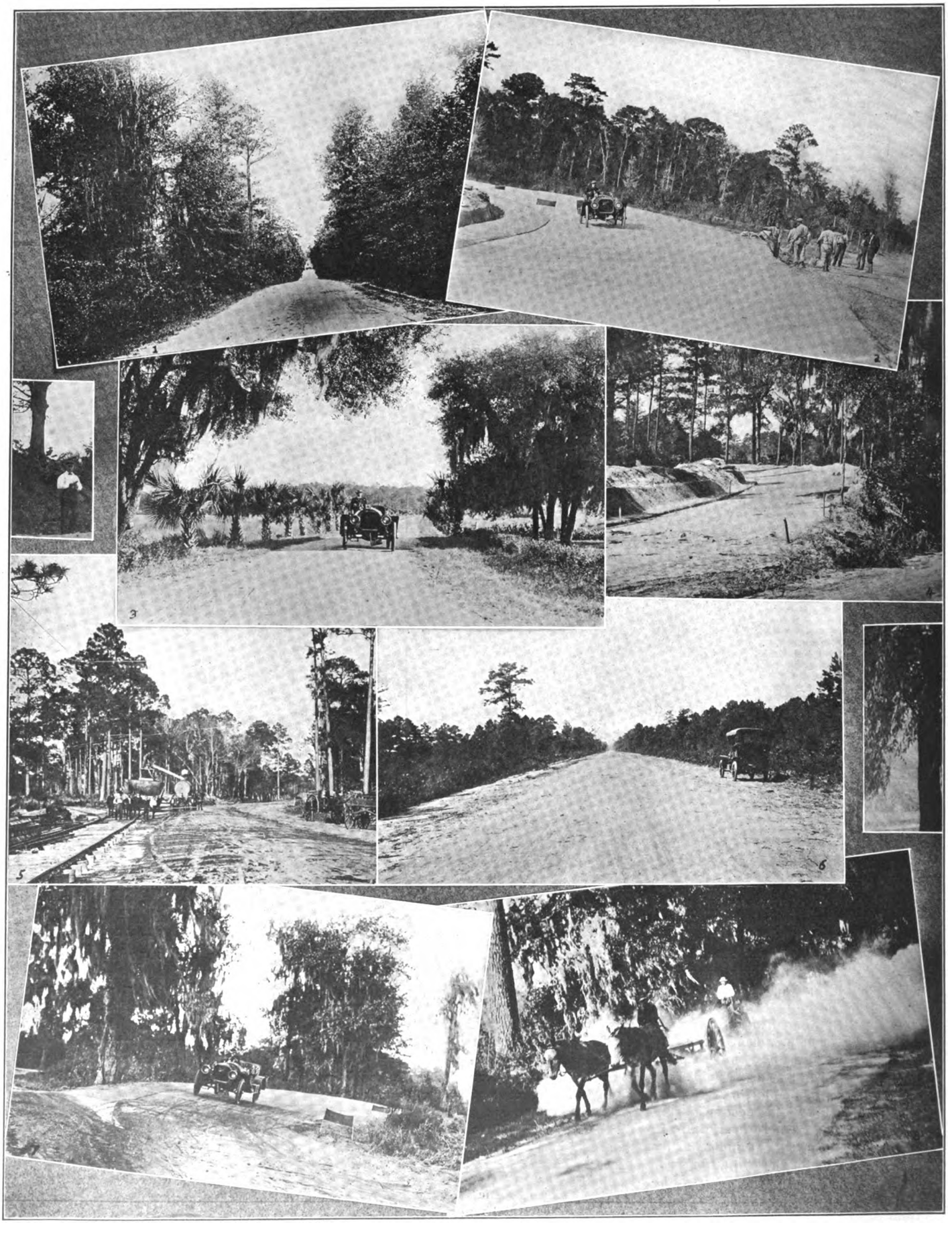
Double Date for Engineers' Meeting.

As is customary, the Society of Automobile Engineers will hold its annual meeting in New York City during the show season. In order to accommodate its various members who are likely to be in attendance at one or the other of the two shows, however, it has been decided to adopt a dual date. The opening sessions will be held beginning Tuesday, January 5, and adjourning to Tuesday, January 19, one of the two gatherings thus falling into each of the two show weeks. In addition to the usual technical program the fourth annual business meeting and election of officers will be held.

Newark Dealers Determine on Show.

Despite a refusal from the Motor and Accessory Manufacturers, Inc., to grant a sanction for their proposed show, the automobile dealers of Newark, N. J., have taken courage again and plan to hold the affair anyway. It is thought that the accessory lines handled by the dealers themselves can be displayed advantageously without the manufacturers' assistance.

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SHAPING UP FOR THE GRAND PRIZE

Turns and Stretches of Savannah Course—Drivers Draw Positions—Preparations for Handling Mighty Crowd.

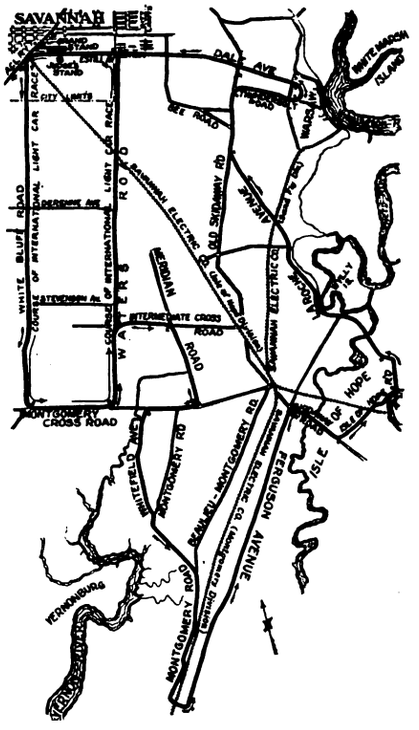
With the Savannah meet but one week off, arrangements are going forward on a large scale to make it a success, and with every prospect that from the competitive point of view at least, it will carry a fulfilment of all the hopes which have been held out for it. Originally conceived by the Automobile Club of America as a foil for the Vanderbilt Cup contest, when that event was ruthlessly shorn of its international character and promoted savagely during the heat of the now forgotten controversy with the American Automobile Association, the peaceful settlement of that difficulty has secured for the Grand Prize race of Thanksgiving Day and the introductory light car race of the day before, recognition which it could have obtained in no other way and practically secured its patronage by such of the northern enthusiasts as care to sever the home ties on the great national home day.

Last April when Savannah saw its first road race, the course was in splendid shape, with the exception that it was narrow in stretches, with one or two rough spots. Inasmuch as $30,000 or more has been spent to widen and bank the circuit and that it will be made as nearly dustless as possible by thousands of gallons of oil, with which it has been soaked, it can be considered without the least hesitancy the finest road course in America, and can rank with the best of European circuits. The Grand Prize course measures 25.13 miles, which will mean that 16 laps over it will make the race 402.08 miles in length. The shorter circuit, or "course within a course," for the light car race, is 9.8 miles around, and will be traveled for 20 laps, or 196 miles.

The setting of the race is highly picturesque. Bordered with the tall pine trees characteristic of the section, which are bearded with great quantities of silver gray Spanish moss, a series of vistas are presented that delight the eye, as the course is toured at moderate speed.

From the grandstand which is within the city limits of Savannah, a well banked turn leads into an absolutely straight stretch some five miles long, known as the White Bluff road. At Montgomery cross roads the route turns into Waters road, and presently is headed back in the direction of the stand. At the end of a short stretch, an abrupt, heavily banked turn to the right is the continuation of the Grand Prize course, while straight ahead is the ten miles quadrilateral which will be used for the light car race. This leads directly back to a right angle turn near the start and finish, over a new laid piece of road.

Following the longer course, the Intermediate cross road leads into Meridian road at a second right turn, and the Vernon River, with its semi-tropical vegetation surrounding it, is approached. Then a third right turn, abruptly made, furnishes a complete reversal of direction momentarily until a right-angled left turn leads into Whitefield avenue and the Montgomery road, where the new part of the course is encountered—60 feet wide and smooth as a billiard table. Two well constructed turns, forming practically a hairpin, lead into Ferguson avenue, where the return journey to



the starting point begins. This section will permit some of the greatest speed of the race when throttles may be thrown wide open and held until a capital "S" turn through the aptly named Skidway road to Isle of Hope road, where six turns, all of which are heavily banked, lead into La Roche avenue. A turn to the right, leading towards the village of Wasson, gives a second hairpin loop back to Delaware avenue, which completes the course back to the grandstand by easy stretches.

Some of the picturesque points on the course are shown on the opposite page, the two upper pictures showing stretches of both ordinary and special road; the latter being the banked turn where the intermediate cross-road turns into Meridian avenue at the county farm, with convict laborers at work. The third panel gives an idea of the stumpy palmettos and the enormous spreading trees along the new stretch of La Roche avenue, while No. 4 shows where a special bank 6 feet high is intended to eliminate the skidding danger. Ferguson avenue has just been oiled, the fifth and sixth panels showing its uniformity. Sixty-two feet wide, and with less than a foot grade, it presents the speediest stretch of the whole course. The two bottom pictures are views of Montgomery cross road where it switches into Whitefield avenue, and the White Bluff road with the final brushing of the surface in progress preparatory to oiling.

Regular practice by the prospective competitors began last Monday, and the course is patrolled daily by 100 flagmen, who keep it clear of invading traffic between the hours of noon and 4 p. m. Between 12 and 1 o'clock, the light cars have the use of the course, while during the remainder of the alloted practice hours it is at the disposal of the drivers of the larger machines.

On Monday of this week, the drawing of numbers for the order of starting in both races took place, there being 20 contestants in the Grand Prize, 6 of whom are Americans, while the light car race numbers 17 contenders. The complete list is as follows:

Grand Prize.

	Driver.	Car.	Country.
1.	Rigal	Bayard-Clement	France
2.	Michener	Lozier	America
3.	Seymour	Simplex	America
4.	Burman	Buick	America
5.	Haupt	Chadwick	America
6.	Nazzaro	Fiat	Italy
7.	Zengle	Acme	America
8.	Hemery	Benz	Germany
9.	Duray	De Dietrich	France
10.	Szisz	Renault	France
11.	Harding	National	America
12.	Cagno	Itala	Italy
13.	Hautvaust	Bayard-Clement	France
14.	Wagner	Fiat	Italy
15.	Hanriot	Benz	Germany
16.	Strang	Renault	France
17.	Fournier	Itala	Italy
18.	De Palma	Fiat	Italy
19.	Erle	Benz	Germany
20.	Piacenza	Itala	Italy

Light Car Race.

	Driver.	Car.
1.	J. Juhasz	S. P. O.
2.	Wm. Hilliard	Lancia
3.	L. G. Bergdoll	Chalmers-Detroit
4.	K. I. Manville	American Aristocrat
5.	F. T. Cameron	Cameron
6.	.....	Isotta
7.	Geo Robertson	Gregoire
8.	Robert Burman	Buick
9.	Arthur See	Maxwell
10.	L. B. Lorimer	Chalmers-Detroit
11.	E. A. Hearne	Buick
12.	Thomas Costello	Maxwell
13.	W. R. Burns	Chalmers-Detroit
14.	Hugh Easter	Buick
15.	Joseph Muntweiler	Maxwell
16.	Earl Jeffers	Buick
17.	C. W. Kelsey	Maxwell

In the big race, Leonard Zengle has been substituted for Patschke as the Acme driver, while the driver of the Isotta in the light race has not been decided upon; Herbert Lytle, who was scheduled to pilot it, having been taken ill with typhoid fever.

Announcement was made late last week that the A. C. A. had decided to award the winner of the light car race a $500 bronze or silver trophy made after one of several designs which the contest committee then had under advisement. This dispelled some

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anxiety which had been manifest lest the winner of this event fail to receive some token of recognition comparable with that awarded the winner of the Grand Prize. In addition to the major trophies, ample inducements are held out to the successful drivers by tire and accessory makers.

Prizes to the extent of $5,000 have been offered by the Michelin Tire Co. for drivers gaining places with that make of tires in the Grand Prize and light car races. In the long race, the winning driver will be awarded $2,000, the second $1,000, third $500, fourth $300, and fifth $200. Prizes in the light car contest for placed drivers using Michelins will be $500 to the winner, $300 to the second, and $200 to the third. The Continental Caoutchouc Co. offers $2,000 to the winner of the Grand Prize, provided his car is equipped with Continentals; with $1,250 and $750 as second and third prizes. In the light car race $500 will be distributed under the same conditions—$250 to the winner, $150 to the second, and $100 for the third. Likewise the Bosch Magneto Co. has offered ample inducements to drivers who carry a Bosch equipment; $500, $250 and $100, are the bonuses offered for first second and third.

Arrangements for the management of the race are probably as complete as have been made for any race ever held in this country. It will be remembered that one distinguishing feature of the stock car race of last spring was the excellency of the policing arrangements. Savannah intends to outdo itself in this respect just now. Complete telephone service, military guards, strict observance of rules as to the maintenance of a clear course, will serve to give the competitors every advantage in the race and also to enable the spectators at the grandstand in keep in close touch with the progress of the events.

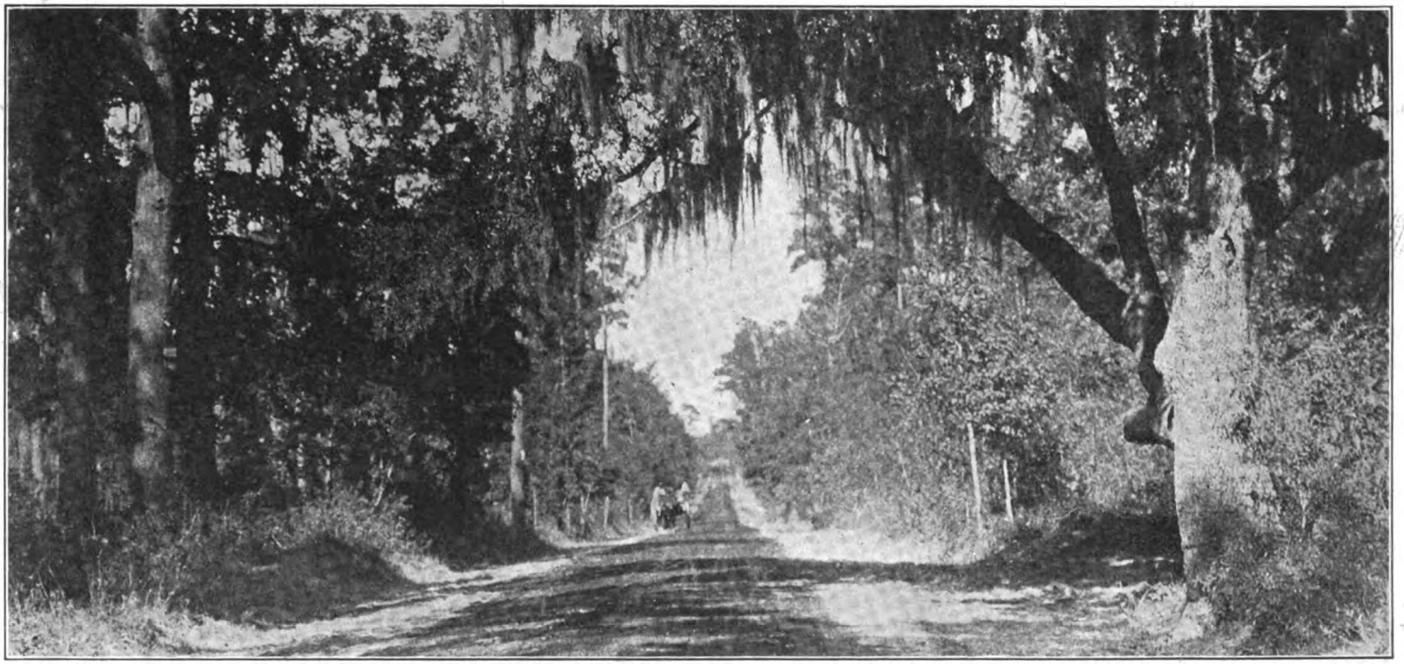
A novel feature of the arrangements is the establishment of fire patrol stations at four different points on the course. These stations will have telephone communication with all parts of the course, and be in readiness to send out an automobile equipped with extinguishers, in case a car should catch fire, repeating the incidents of the last Vanderbilt contest.

Twenty or more physicians will be stationed around the course, with fully equipped red cross tents, prepared for any emergency. Arrangements also will be made for a staff of motorcycle couriers.

Arrangements for the accommodation of the visitors have been carried out with equal elaboration. In anticipation of a throng of out-of-town spectators, hotels, lodging houses and private dwellings have been canvassed and listed, and all Savannah is preparing to reap a harvest from the occasion. At that, many of the sojourners will bivouac in the numerous special trains which will be sidetracked "near the grandstand," or, in the case of the A. C. A. delegation, on board the specially chartered steamer, City of Savannah.

A number of railroad and tourist agencies have arranged special excursions to the race and have cut each other's rates ruthlessly in an effort to get the southbound business. In consequence, either one of two things will happen; an amazing number of people will go to witness the race, or else numerous "all expenses covered" and "parlor car special" tours will be financial losses to the agents who are advertising them so profusely. The Pennsylvania, Atlantic Coast, Seaboard Air and other lines will run excursions, while these roads will carry numerous car parties from various cities booked by the tourist agencies. Several large automoblie clubs will send representatives, the Cleveland and Quaker City Motor Clubs being among the number with chartered cars. The "Wall Street Special" and "Business Men's Special," starting from New York City, expect to carry quite a crowd of persons whose business affairs demand that they make a quick trip, in which connection it is promised the latter train will make the jump to Savannah in an even 22 hours.

The Savannah line will provide a pleasant means of making the trip by water, while the Automobile Club of America's chartered steamer will start on Saturday evening, November 21, with perhaps the most elaborate scheme of entertainment of all.



VISTA OF LONG STRAIGHT STRETCH ON LA ROCHE AVENUE

Stricker Killed at Birmingham.

While attempting to make a new 24 hours track record at Birmingham, Ala., on Tuesday, 17th inst., Emil Stricker was thrown from his Renault mount and died shortly afterward. Leon Barrows, his mechanician, was also thrown and badly injured. Stricker had been driving at a rate close to a mile a minute on the mile oval and was alternating with Lewis Strang at the wheel. Strang's explanation of the accident is that when the car skidded on a turn, Stricker's long coat caught in the rear wheel,, pulling him from the seat. Tire failure was not the direct cause, as at first reported, he states. Stricker was a native of Alsace-Lorraine. unmarried, and when in New York lived at the Professional Chauffeurs' Club.

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LOCOMOBILE RECEIVES THE CUP

Festivities Attend Presentation of Vanderbilt Trophy—President Davis Tells the Origin of the Winning Car.

Enthusiasm ran high when the formal presentation of the Vanderbilt Cup was made to Samuel T. Davis, Jr., president of the Locomobile company, at the home of the Automobile Club of America, Broadway and Fifty-fourth street, New York City, on Thursday evening last, 12th inst. Before a gathering of some 300 or more invited guests, Jefferson De Mont Thompson, chairman of the Vanderbilt Cup Commission, presented the trophy on behalf of the donor, William K. Vanderbilt, Jr., accompanied by loud, ringing applause.

"We have waited for five years," he remarked, "for an American car to win this prize that now stands as the one great automobile trophy. We have the car now—American from top to bottom, designed by an American and driven by an American. We have had much to be proud of this year, but nothing more so than this."

In his response, Mr. Davis gave a most interesting chapter of Locomobile history in describing the origin of the car. In 1904, he said, a young Chicago enthusiast, (Dr. Julian P. Thomas, of aeronautic and medicinal fame), who owned a whole fleet of Locomobiles, wanted the Bridgeport company to build him a racer that would beat the world. When the company demurred, the man declared he would have another manufacturer build the car and buy no more Locomobiles. "The customer was too good to lose," continued Mr. Davis. "and he was so insistent that we finally decided to place a prohibitive price on a car we did not want to build. We named $18,000, and he accepted without a murmur, and deposited $6,000 forthwith. Then we had to make good, and we did build a machine for him.

"That first Locomobile didn't beat the world. In fact, it only started in one big race—the Gordon Bennett Cup. It started—that was all it did do. Nevertheless, from that first effort, developed the winner of this year's Vanderbilt race. In 1906 we constructed two racers and the recent winner was one of them."

He then expressed his appreciation of A. L. Riker, the designer, the mechanics who constructed and assembled the car, and last, but not least, George Robertson, who piloted the car to victory, and his mechanician, Glenn Ethridge; mentioning that without a driver of superior caliber, success would be impossible with the best car ever built.

After Riker had said a few modest words, there were loud shouts of "Robertson!" for the gathering wanted a speech from the driver. But while the shouting was at its height, Winthrop E. Scarritt sprang to his feet, and began to deliver his stock speech, harking back as far as the days of the Roman empire and also declaring boldly that the automobile is no longer an experiment—that it has come to stay, and furthermore, that his prophecy of some time ago to the effect that American genius and American brains in building American cars, would some day beat the world, had been fulfilled Again the guests yelled for the winning driver, but again Mr. Scarritt arose; this time to introduce John J. Hayes, winner of the Marathon race at the Olympic games in England.

Hayes received a thunderous ovation, but the Robertson speech that had been anticipated, was not delivered. The modest driver had been "snowed under" by the others.

Ex-Police Commissioner McAdoo delivered an absorbing address on the question of police and motorists, with numerous brilliant touches of humor. Incidentally he made the disconcerting statement that automobilists and the Burglars' Union were on the same par—both bodies forever trying to dodge the police. Also he told why he had inaugurated the scheme of having cycle police wear white caps. At that time people used to observe with a smile that no arrests would be made, because a driver could "spot" a cop a mile away and would slow down; to which the commissioner invariably would reply that that was exactly what he expected. He was not trying to make a record of arrests; he was attempting to make motorists drive at a safe speed. Nine out of every ten accidents in New York City are caused by the failure of drivers to observe and obey the rules of the road, McAdoo declared, incidentally scoring the habitual recklessness of the average taxicab driver. That corners are turned too sharply and in a dangerous manner by many drivers is evidenced by the way so many curbs are worn down at street crossings.

Evidently the peaceful incidents of the past few weeks have resulted in the arrangement of a truce between Jefferson De Mont Thompson and Robert Lee Morrell. That the hatchet has been buried, at least temporarily, was made clear when the chairman of the commission, in a burst of geniality and enthusiasm, proposed three cheers for one who was "unable to be present, a true sportsman—Robert Lee Morrell." With waving arms, Thompson led the cheering in person. Others, absent ones and those who were not, also were lustily acclaimed, but in the exuberance of the moment no one remembered to honor the Cup donor, and about the only name familiar in connection with the contest which was not cheered was that of William K. Vanderbilt, Jr.

A. R. Pardington, vice-president and general manager of the Long Island Motor Parkway, Inc., when called upon, recapitulated the history of the early Vanderbilt Cup contests and stated with no little pride that work on the Motor Parkway would proceed, so that next year would see its completion. Judge E. H. Gary, president of the A. C. A., was another to say a few cordial words. Then entertainment of the combustible variety was distributed, a searchlight photograph was taken following which an Ethiopian singer in a loud pink Prince Albert coat, entertained briefly. Then came the moving pictures.

Results of St. Louis Hill Climb.

After several days of worry and delay, the judges of the hill climbing contest held at St. Louis on Friday, 6th inst., at last reached a decision regarding the winners of the various events. Emulating the example of the Algonquin and other slope tests, the committee of the St. Louis Automobile Manufacturers and Dealers Association in charge of the affair, took the advice of some one who told them that the contest should be decided according to a piston area formula. This was done, but it seems that after the times of the contestants had been duly recorded, the judges did not know just how to plunge into the mathematical part of the game to determine the winners.

They decided that Baldwin, who drove the specially built Stanley steamer, was entitled to the Times trophy and the free-for-all prize cup. Following is the report of the percentages officially given out, showing the order of positions awarded in each class as determined by the formula:

Motor Buggy Class.

Driver.	Car.	Time.	Per Cent.
Allen	Eureka	2:12	10.82
Oliver	Victor	1:53	11.05
Siddway	Success	2:11	19.30

Cars with Piston Area Under 50 Sq. In.

Paine	Chal-Detroit	1:05⅗	5.92
McQuillan	Buick	1:04⅘	6.90
Delaney	Jackson	1:21⅗	8.41

Cars with Piston Area Over 50 Sq. In., and Under 65 Sq. In.

McLain	Apperson	1:00⅗	6.05
Igoe	Moon	1:03	6.85

Cars with Piston Area Over 65 Sq. In., and Under 90 Sq. In.

Tuttle	Stod-Dayton	0:49	6.19
Blumcoe	Stev-Duryea	0:55⅕	7.62
Lewis	Packard	0:54⅘	7.88

Cars with Piston Area Over 90 Sq. In.

Soules	Stearns (4-cyl.)	0:46⅗	7.42
McLain	Apperson	0:44⅗	8.03
Caldwell	Pierce	0:49⅗	8.75
Oldfield	Stearns "6"	0:49⅗	9.00

Free-for-all Event.

		Time.
Baldwin	Stanley	0:40⅘
Baldwin	Stanley	0:43⅕
Woodward	Stanley	0:45
McLain	Apperson	0:46⅗
Cull	Stanley	0:46⅗
Tuttle	Stoddard-Dayton	0:49
Oldfield	Stearns	0:49⅗
Caldwell	Pierce	0:49⅘
Woodward	Stanley	0:55

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FENNER FIRST IN DESERT RACE

Los Angeles-Phoenix Run a Real Test of Endurance—All Four Contenders Survive—Their Exciting Adventures.

One of the most strenuous and unusual contests that ever took place in the West was the "great desert race and sand battle" between Los Angeles, Cal., and Phoenix, Ariz., which started at midnight on Sunday, 8th inst., and finished the following Tuesday. It was won by F. C. Fenner, who drove his White steamer "Black Bess," with H. D. Ryus as alternate, covering the 455 miles in 30 hours 28 minutes net running time. Leon T. Shettler's Kisselkar, driven by Bert Latham and H. Hanshue, was the second contestant to reach the goal, but second prize was awarded to A. J. Smith, who was the third arrival in an Elmore, owing to a time allowance made for delay caused in crossing the Colorado River on a raft. The latter pilot was the only contestant to drive the entire race without relief at the wheel, and covered the distance in 32 hours, 52 minutes actual running time. The Kisselkar was given third place with 35 hours 52 minutes, and Ralph Hamlin's Franklin was fourth. In addition to some side wagers, Fenner won the Republican cup which was offered by a Phoenix newspaper as first prize. This was presented to the driver at a dinner tendered by the Maricopa Automobile Association at Phoenix the following Thursday. Smith was also presented with a silver cup.

The race possessed unusual interest, inasmuch as there were as many distinct types of power plant in use as cars. Gasolene cars of two cycle and four cycle patterns; water-cooled and air-cooled, and one steam car made up the field of contenders. Such a variety in a contest of only four competitors was quite unusual.

From the very start, the contest was most trying. The route led through El Monte and San Bernandino, to Beaumont, where the first stage of desert driving through sand and loose pebbles commenced. Pulling through Palm Springs, Indio, Mecca, and a few other spots on the map, the contestants reached Dos Palmos, 170 miles from the start, where the first checker was located. Hamlin in the Franklin was in the lead up to this point, having gotten that far in 8 hours 61 minutes, with Ryus in the steamer, second in 9 hours 43 minutes, Latham third and Smith fourth.

From Dos Palmas to the Colorado River, the worst part of the trip was encountered. Latham and Hamlin experienced tire trouble and the former had a strained rear axle. At Ehrensburg, where the stream had to be crossed, it was swollen by early melting snows and had to be negotiated on a rather uncertain raft propelled by a quartet of drunken Indians, who had no great desire to work very hard. They managed to get the several contestants into Arizona in separate trips at $8 per trip. Time consumed in crossing this "felly" was noted by appointed observers and later deducted. Just before reaching the ferry all of the contestants strayed from the road and got lost in an irrigation ditch, losing hours in retracing their way.. When Hamlin, the Franklin driver got astray in the pitchy darkness, he decided not to attempt to retrace his steps, but slept until dawn, when daylight helped him to get his bearings. When he at last found his way back to the Los Angeles-Phoenix trail, after losing four precious hours, he hastened on, but in the mean time, the other contestants had secured a lead too big for him to cut down. Fenner and Smith had both halted on the Arizona border after a risky trip across the turbulent river and spent an almost sleepless and uncomfortable night beside a roaring campfire, finally starting on at dawn. Fenner had experienced trouble shortly after leaving Dos Palmas. At that point sand clogged his engine and prevented him from getting up any steam at all. His burners simply got red hot without having the desired effect of making the necessary steam. Two pipes of the car which lay one upon another were melted, and a delay of an hour was occasioned in making a repair.

In order to secure better traction, Smith, who drove the Elmore, rigged a plank on the rear of his car, upon which he made his mechanician sit and it was said to have worked like a charm, from the driver's standpoint, though the mechanic had a different view of the matter.

From Ehrensburg it was a long plug over many miles of sand and rocks, through Quartsite and Salome, until Buckeye was reached miles beyond,where a guide led the way and marked the trail into Phoenix.

Hamlin's "Greyhound" Wins at Phoenix.

Following the desert race from Los Angeles, Cal., to Phoenix, Ariz., the Maricopa Automobile Association held a track meet at the latter city on Wednesday, 10th inst., in connection with the Territorial fair. This was the first track meet Phoenix had ever witnessed and several thousand persons attended. The "feature" event of the day, which was a 10 miles brush open to the four contestants who had driven in the desert race, was disappointing, inasmuch as only two of these started, Hamlin in the Franklin "Greyhound," and Latham in the Kisselkar. A Reo was entered to help fill out. Hamlin, who won the long endurance run of the previous two days, got the Greyhound working well and succeeded in ripping off ten miles in 10:41, and winning the event from Latham.

In a ten miles match between a Buick and a Tourist car, Fremeau, handling the latter, easily disposed of his opponent, lapping him before the finish.

DISQUALIFIED FOR USING DOPE

Denver Endurance Award Altered Because of Ether in Swanbrough's Fuel—Colburn Gets the Prize.

As a result of an ill-advised effort to win the economy test promoted by the Denver Motor Club on November 7th by means of fuel which had been "doctored," E. W. Swanbrough, who was first announced as the winner, was later disqualified and set down at the foot of the list of the 18 survivors. As told in last week's Motor World, Swanbrough, driving a Corbin car, covered the prescribed distance of 112 miles from Denver to Greeley and return, on 2½ gallons of gasolene. This was in accordance with the original report of the contest committee, which awarded both the Ralph W. Smith cup and the Denver Motor Club cup to Swanbrough. On the following day, however, a protest was filed by the Colburn Automobile Co., which had entered a car, charging that Swanbrough's gasolene had been tampered with. The protest was allowed and upon chemical analysis, fuel in the tank of the disputed car was found to have been etherized. The original award was promptly nullified and the dishonest driver was notified that in the future he will be barred from competitions held under the club's auspices.

Inasmuch as the Colburn car was credited with the best percentage, aside from that of the disqualified car, (4.89), the Smith cup was awarded to D. B. Colburn, who drove it. This percentage was determined by formula, taking into consideration the weight of the car with passengers and the weight of gasolene consumed. The club's prize, which was for the least consumption of gasolene, regardless of weight or percentage, was awarded to F. W. Alkire's Ford, this car having consumed 16½ pounds of gasolene, or slightly more than 2½ gallons. In the percentage showing, D. L. Moody's Pope-Hartford was second with a score of 4.817, and George A. Markwell's Stevens-Duryea was third with a score of 4.812.

New Course for Los Angeles Hill Climb.

Instead of making use of the old Box Springs course for the annual Thanksgiving Day hill climb at Los Angeles, the Automobile Dealers Association of Southern California has selected a new slope for this season's contest. The projected route is through open country and does away with the dangers encountered heretofore on the public thoroughfare, where the crowds have been too great for safety. No curves or turns are to be found on the hill to be used in the contests to be held on the 26th and the average grade is about 12 per cent.

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THE INDUCTOR TYPE OF MAGNETO

Daring Example of Reversed Arrangement of Elementary Organs—Remarkable Simplicity of the Ford Device.

So rapid has been the development of the high tension type of magneto during the past two or three years that it is difficult for the layman to keep fully posted on the points of finer theory which underlie it. One of the more recent systems to come into use is sometimes known as the inductor type, in which the arrangement of the elementary organs is practically a reversal of that familiar in the more common instruments of its class. This system is best understood if it be considered as equivalent, electrically speaking, to an ordinary magneto in which the armature is held stationary and the magnet caused to rotate around it. By this means the use of rotating coils and in fact all rotating conductors except such as are necessary to the distribution of the current are dispensed with. An unusually daring and attractive example of the type in question is that embodied in the construction of the new Model "T" Ford cars, and developed in connection with the design of that vehicle.

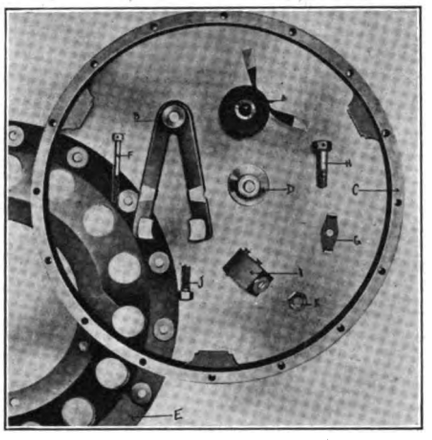


Fig. 2

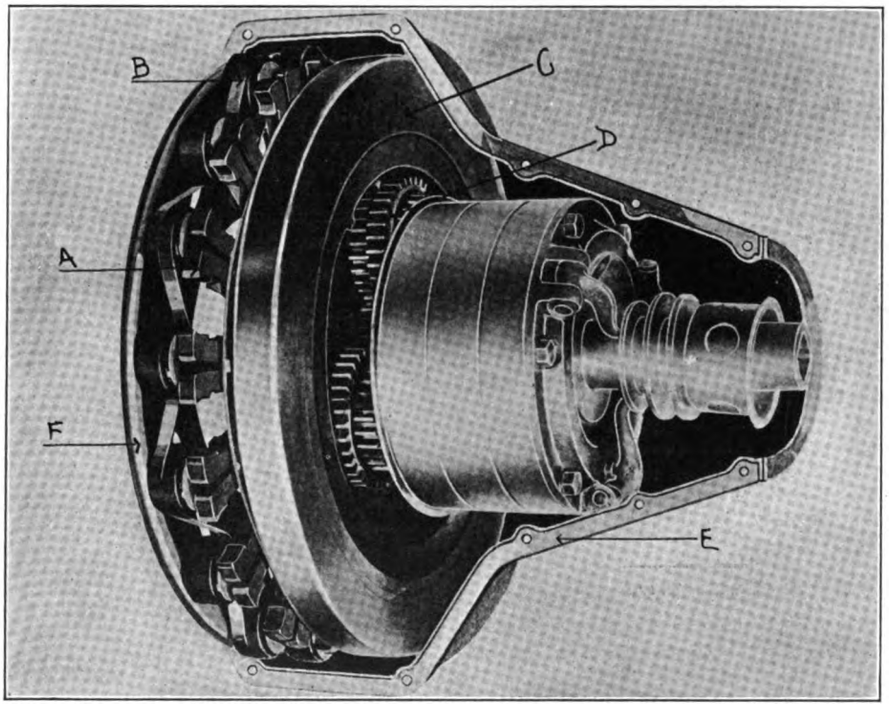


Fig. 1

As already told in connection with the description of the complete car recently published in these columns, the magneto is incorporated directly in the fly wheel and power plant housing construction, where it is not only protected from the invasion of destructive foreign bodies, but also is most effectually concealed. The portion of the device, B, Fig. 1, corresponding to the armature of the usual form of magneto, is mounted in a fixed position and positively attached to the housing, E-F, which extends from the crank case of the motor to include the change gear group, D, in the unit plant arrangement. The moving part, A, which corresponds in its electrical purpose to the magnet of the more common pattern, is incorporated into the fly wheel itself, C, and by virtue of its own weight makes possible the lightening of the fly wheel without reducing the equalizing effect upon the motor in the slightest degree.

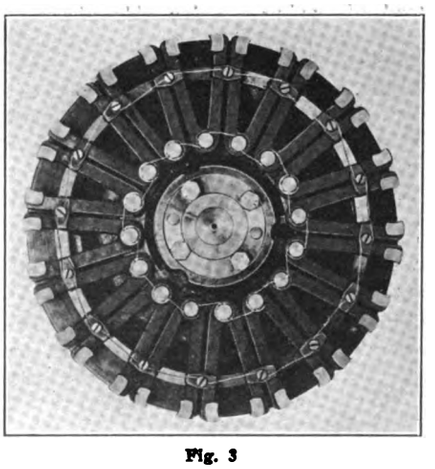


Fig. 3

The components of the magneto, shown in Fig. 2, are seen to be of the simplest possible description. The stator, or stationary part comprises a spider attached to the main housing and mounting a series of small coils, A, which are connected in series. Whenever the fly wheel turns, current is generated in these coils, and so throughout the ignition system, by the passage across the ends of the coils of a series of small magnets, B, which are mounted on the fly wheel by means of the ring, C, and the various locking devices, shown in detail. The magnets are connected in such a way as to form the necessary "magnetic circuit," thus corresponding to the complete magnetic enclosure of the armature in the ordinary form of magneto.

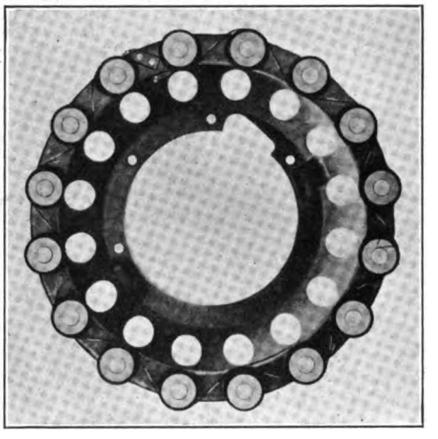


Fig. 4

A better idea of the arrangement may be obtained from Fig. 3, which shows the rotor or inductor complete and mounted on the fly wheel. The view is from the forward end of the part and clearly indicates the relative position of the poles themselves which pass directly over the windings of the stator. This is shown in Fig. 4, ready to be attached to the casing.

Aside from the advantages derived from the compactness of the arrangement and its protected position, a number of other considerations point to its excellence. Thus the absence of moving gearing of any sort, the elimination of the commutator, as well as of the moving wires, brushes and contacts, constitute features which are of the greatest value from the standpoints of simplicity and economy. Unlike the conventional forms it offers no temptation to the inexperienced tinker and is little likely to suffer from this source.

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NEW JEWEL MODEL ANNOUNCED

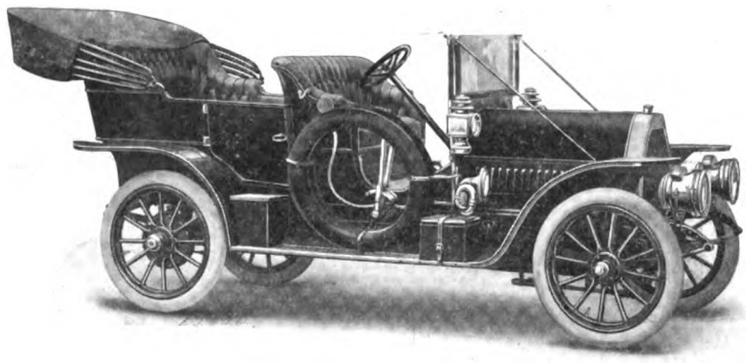
Seven Passenger Touring Car the Latest Addition to the Line—Special Details of Design and Equipment.

Originally interested in the production of a peculiarly effective type of light runabout which possessed a number of unique and original features, the attention of the Forest City Motor Car Co., Massillon, O., later was turned to the evolution of a larger car known specifically as Model "G." Early last summer a very attractive addition to this took the form of the Model "40" roadster, a still later and newly announced supplement to which is the Jewel "40" touring car, possessing many of the features of the roadster model, but mounting a seven-passenger body of most acceptable delineation, though exhibiting no striking departures from the routine of current practice. Mechanically, the car reveals these specific points: a 4¾ by 5 inch Rutenber motor of the four-cylinder, vertical pattern; self-contained system of lubrication with constant level pump enclosed in the crank case; double ignition as a regular equipment, including the Bosch high-tension magneto, Connecticut spark coil and Exide accumulators. This equipment is complete to a duplicate set of plugs, either series of which may be brought into action by means of a switch which is conveniently located on the toe board. The transmission is of the propeller shaft type, with three-speed change gear of the selective order, and full floating axle.

The front axle is a single piece drop forging of I-beam section. The front wheels are mounted on Timken roller bearings, as are the steerings knuckles. The rear axle, and transmission mounting also is of the same pattern. The wheel base is 120 inches and the wheels are 36 inches in diameter, shod with 4 inch tires in front and 4½ inch in the rear. The complete vehicle, with equipment, weighs 3,000 pounds, or thereabouts.

From the accompanying picture of the car may be seen its unusually roomy character—a feature which is brought about at once by the employment of the long wheel base, and by placing the rear seat well back of the rear axle. By this means ample foot room is secured, as well as plenty of tonneau space for the extra seating required to bring the capacity up to requirement, while it also serves the happy purpose of allowing ample entrance to the tonneau without crowding the front seat toward the dash. It will be observed that the design of the hood, though arranged to afford ample motor space is not such as to be obtrusive.

An unusually broad equipment is included with the machine, including as it does, the full lighting installation, with 9-inch search-lights, and gas tank; double tire irons and trunk rack in addition to the tool outfit. In the way of an option, choice is offered the purchaser of no less than four distinct makes of tire.



JEWEL MODEL "40" TOURING CAR

One-Piece Screw Driver, All Steel.

Among the chief features of the new "all steel" screw drivers which are being produced by the Billings & Spencer Co., of Hartford, Conn., is the fact that they are one-piece products, including the handle. Each one is a drop forging, and the handle,



instead of having wooden side pieces, as erroneously stated in a previous description, consists of four longitudinal flanges from the shank itself, as shown in the illustration, affording a grip that is peculiarly firm and powerful in the hand. The new form of screw driver is supplied in eleven sizes.

Machinery for Assembling Wheels.

Assembling automobile wheels entirely by machinery has become possible through the exploitation by an Ohio company of a newly invented system designed for that purpose. Being entirely automatic it makes possible a considerable increase over the ordinary rate of production.

AUBURN ANNOUNCES NEW MODEL

Neat Condensation of Touring Car Lines in Vehicle of Moderate Proportions—Its Double Opposed Motor.

After seven years of unostentatious concentration on the production of a car of moderate power and price the Auburn Automobile Co., Auburn, Ind., has developed a machine which in many respects presents features of peculiar merit in the enormous field to which it is designed to cater. Although one of the numerous products of the middle west which are unfamiliar to many outside their own immediate vicinity, it is well worthy of study, since in simplicity of construction it represents a continuance of a number of excellent features of the light runabout of former popularity in common with the "set-up" and general characteristics of the more elaborate high powered product.

In general appearance it presents a rather neat condensation of the conventional touring car lines, the seats being of ample size, comfortably arranged and so spaced as to afford ample foot room. The bonnet is of the "continental" type with large radiator in front affording no less than 143 square feet of cooling surface, and the mechanism is enclosed beneath by a protecting boot.

The power plant comprises a double opposed motor of 24 horsepower rating, and with cylinder measurements of 5¼ by 5 inches. Transmission is by center chain—a system of meritorious simplicity—with a two-speed, planetary change gear in which the high speed relation is secured by means of a multiple disc clutch. Braking is done through the rear wheel hubs, and the mechanism of control involves a simple arrangement of pedals together with a single side lever.

The frame is of pressed steel, the spring semi and full elliptical, front and rear, and of five and seven leaf construction, respectively, while the axle mounting is entirely anti-friction consisting of Hyatt roller bearings in the live rear member, and ball mountings in front. The major specifications are: wheel base, 100 inches; tread, 56 inches; and tires, 32 by 3½ inches, equipped with detachable rims.

Soap as Lubricator for Clutches.

Lubrication of clutches of the plate or multiple disc type is ordinarily supposed to be best accomplished by the use of a special grade of oil such as recommended by the makers of the car only after reliable and presumably exhaustive tests. A foreign authority, however, is responsible for the statement that "two tablespoonfuls of soft-soap dissolved thoroughly in half a pint of boiling water is better than any oil, and prevents glazing."

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GUARDING AGAINST FREEZE-UPS

Simple Methods of Adapting the Cooling Mixture to Weather Conditions—Uses of Alcohol and Glycerine.

It almost invariably happens that the first cold snap of the fall finds some innocent motorists unprepared for the inevitable and results in the shelving of their cars while repairs necessitated by the freeze-up are being carried out. Such accidents are all the more disgusting because they not only deprive the owners of the use of the machines at a season of the year when they offer the most alluring inducements to recreation seekers, but also because they are as needless as they are provoking and expensive. Several years ago the Motor World published an account of a series of very careful experiments to determine the most suitable precautions looking toward the prevention of freezing, as a result of which it was concluded that wood alcohol and glycerine mixed with water in certain proportions varying with the temperature conditions to be met would serve to best advantage. Although numerous preperations designed specifically for the prevention of freezing have been put on the market since that time, it is significant that the use of these simple commodities remains unquestioned in its value.

A bulletin recently issued by the Association of Licensed Automobile Manufacturers gives confirmation of the principles involved and practically reviews the steps by which original conclusions were reached. Based on the results of the early tests the recommendations given may be depended upon as being perfectly trustworthy.

"Wood alcohol was chosen for the first experiment," relates the bulletin referred to, "because there was not the slightest chance of it injuring any machine. A set of laboratory freezing experiments were made to determine what percentages of water and alcohol would freeze under artificial conditions. The results showed that it is possible to use alcohol and water mixed to resist almost any degree of cold.

"Then the question of whether alcohol would separate from the water and waste away so fast as to make the expense prohibitive, was taken up. It was felt that considerable alcohol might be lost on mild days. A water-cooled automobile was taken and seven gallons of water-alcohol mixture, 18 per cent. alcohol, put in the cooling system. By connecting to the top of the radiator a bottle, into which a pipe led from above the water level, it was found that except under extreme conditions, such as on a mild day, allowing the engine to run without a fan while the machine was standing still, no vapor at all arose.

"This led to the thought that it might be possible to close the cooling system entirely in cold weather, obviating any chance of loss by boiling away. A pressure gauge connected to a cooling system so closed, indicated a pressure of only six pounds under very severe conditions.

"It is also possible that many machines that have relief tubes can be run with a closed system. The safest way to find this out in an inexpensive manner is to take a small bit of rubber tubing, fitting the end of the blow-off pipe, put a wooden plug in one end of the tube and slip the other end over the pipe lightly. Any pressure that could injure the machine at all would blow the tubing off and prevent injury.

"When the temperature was as low as 15 degrees Fahrenheit below zero, a mixture of water and alcohol—33 per cent alcohol—resisted freezing perfectly, even when the car was left outdoors all night. With the temperature around 50 or 60 degrees Fahrenheit, this mixture will boil slightly.

"It is not probable that the temperature will drop below 10 degrees above zero before the first of December; in which case 15 per cent. of alcohol in the mixture is enough. As the season progresses and zero temperatures are likely, nothing less than 25 per cent. of alcohol is safe.

"The combined use of glycerine and alcohol mixed with water solves the question for both hot days and cold days; the boiling point of glycerine, being higher than that of water, will balance the low boiling point of alcohol, so that the boiling point of the mixture will be reasonably high. As the percentage of glycerine required to meet a given temperature is much larger than the required percentage of alcohol, and as a matter probably of comparative cost, a mixture of alcohol and glycerine for use in the water is better, although glycerine slowly but surely destroys rubber tubing connections. A mixture of water and glycerine—30 per cent. glycerine—will freeze at about 15 degrees Fahrenheit. To be safe at 10 degrees below zero, about 55 per cent. of glycerine in the water is necessary.

"Twenty-five per cent. of half alcohol and half glycerine, added to water, will resist freezing at eight degrees Fahrenheit. 30 per cent, of half alcohol and half glycerine, added to water, will resist freezing at practically 10 degrees below zero.

"When the half and half mixture is used, the best results will be obtained by adding a small quantity of wood or denatured alcohol from time to time, as the weather gets colder.

"The right way to handle the cooling mixture is to find out the equation for your own car, using all the alcohol you can stand without boiling the mixture on mild days sure to be met in winter in this climate Some machines will stand all alcohol, that is, mixed with water; others will not and glycerine must be used to keep up the boiling point."

UNSOLVED PROBLEMS OF DESIGN

Dugald Crelk Outlines Future Experiment for the Engineer—The Existing Shortcomings of the Motor.

Among the better informed class of engineers the present day motor car is recognized as a very creditable working hypothesis for future developments rather than as a complete and wholly satisfactory mechanism. A large proportion of the difficulties which confronted the earlier designers with motoring in all its phases are well aware that the department of design is still contemplating a number of problems which are far from easy to cope with. Several of these problems, Dugald Crelk discusses in a presidential address recently delivered before the Incorporated Institute of Automobile Engineers, of Great Britain. "Ever since 1903," this eminent authority observes, "marvelous progress has been made, and most of the difficulties of the engine, clutch, change-gear and transmission have been met with such success that the flexible and smooth-running car of to-day appears to many so desirable as to present no further problems for the energy of the automobile engineer.

"To others the present cars appear to embody only partial solutions of many problems. The clutch, for example, even in its best form, is a contrivance which should be abhorrent to the soul of the mechanic. It is a practicable mechanism, no doubt, which causes less damage to transmission gear than would be expected, but this is largely due to the excellence of the material of the modern car and the intelligence of most car drivers.

"It has long seemed to me possible to design a pneumatic clutch connecting the engine and the driven shaft, so that no violent shocks could reach the transmitting mechanism. Such a clutch would consist essentially of two or more cylinders mounted on the end of the driven shaft and rotating with it, and a crank on the end of the engine shaft connected to two or more pistons working in the rotating cylinders.

"Change-speed gear also seems to be a very inferior mechanical device for varying the effort made possible to the road wheel. This has been much felt by motor car designers, and perhaps more mechanical ingenuity has been expended by them on various methods of getting a wide range of intensity of wheel effort without changing gear than on any other part of car mechanism. The system of gear changing by sliding toothed wheels, notwithstanding its apparent mechanical crudity, has proved to be the principal survivor in the struggle, and its efficiency of action has certainly been greatly improved. If we must have gear changed at all, the quiet and easy gear-change of to-day leaves little to be desired.

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"Other efforts have been directed to the improvement of the petrol engine itself, with the object of dispensing with change of gear ratio as much as possible, and accordingly this mode of development has produced the moderately high-power car of today, with its direct drive, live axle, and highly flexible engine. Success in this direction requires an engine capable of giving the maximum torque required by the road wheels on steep hills while geared on the direct drive, and, of course, it involves a powerful engine which runs at a very light load at customary speed on the level. For the greater part of its running, the engine will be only developing about one-fourth of its maximum power in order that the full power may be available for hill-climbing, without requiring change of gear. The necessity of carrying about this heavy and powerful engine, for but a small use of its full power, has been justly recognized as a disadvantage, and many methods have been devised for temporarly increasing the driving torque to be obtained from a small engine. Such methods include: The petrol-electric car, in which an accumulator supplies an electric motor, giving power to the driving shaft when the resistance to motion increases sufficiently, while the electric motor acts as a dynamo, and charges the accumulator when the engine is running under conditions of lighter load, and proposed air reservoir cars, having pumps to fill up the reservoir, which, in turn, assist the engine when required.

"Other inventors seek to increase torque by providing air pumps supplying the air and petrol charge to the engine under a pressure above that of the atmosphere. Daimler was the first to propose this, and he has been followed by many, including Dawson and O'Gorman. They, however, require a heavier engine to withstand the higher maximum pressure of explosion; and although the cylinder dimensions remain small in reality, the weight of the engine, to provide the same margin of safety, requires to be increased as much as it would be by using larger cylinders.

"So far attempts to increase the torque of a small power light engine have failed; it is very desirable, however, to persevere, as it appears probable that a much better type of car is possible, and many advantages to the public would follow success.

"I have made experiments with super-compression devices of different kinds. which convince me that it is possible to arrange for the increase of the mean pressure upon the piston at the slower speeds of rotation by about 50 per cent. without increase of maximum explosion pressure. To do this it is necesstry not only to increase the charge supply pressure as proposed by Daimler, but also to increase the volume of the compression space. By the simultaneous increase of charge pressure and compression space volume, torque is greatly increased, although, of course, expansion is diminished, and the theoretical economy is somewhat reduced. My experiments have been made on relatively large gas engines, two engines of 22 inches cylinder diameter, one of 10 inches diameter, and another of 7 inches diameter, but the reasoning applies to small petrol engine cylinders. Such an increase of mean pressure as I have suggested would enable cars of moderate power to dispense almost entirely with change of speed gear. My present car, for example, would be able to climb all the hills in my district without changing from the direct drive on the third speed.

"If the pumping arrangements could be operated by a small separate petrol motor nicely balanced and always running, the main engine could be arranged to act as a compressed air engine only when in traffic or on hills at slow speed. The added engine and pumps increase the complication, but it seems to me possible to reduce total weight by the reduction of main engine dimensions and the simplification of gear-box arrangement. A car which could be stopped and started in traffic without the need of the clutch, and could stop on a steep hill in the same way, with the certainty of starting smoothly, would combine the advantages of both steam and petrol engines. . . . .

"As a power producer the horse must be considered as a motor of ideal flexibility; the horse can develop his 33,000 foot-pounds per minute, either by a small pull exercised through a long distance in the time, or a heavy pull through a short distance. He can either give a light or heavy pull, and develop the same total power either by motion at a higher or lower velocity.

The petrol motor cannot do this; within wide limits of speed no substantial variation of mean pressure on the piston follows change from high speed to low speed.

Assume a petrol engine to be running at 1,000 revolutions per minute under a mean effective pressure of 90 pounds per square inch, developing an indicated power of, say, 40 horse; then if the speed be dropped to 500 revolutions per minute, the mean pressure of 90 pounds will remain practically unchanged; if the valves are properly proportioned there will be little change in mean pressure. The engine at half speed will then indicate only 20 horse. To comply with ideal flexibility, 40 i. h. p. should be developed, and to do this 180 pounds mean pressure would be required. In the sense of ideal flexibility the petrol motor is conspicuously deficient.

"Assume, now, a steam engine of either the simple or compound type, to be supplied from a steam boiler capable of supplying steam at a given pressure and rate. The steam engine may consume the whole of its supply either at a high or low speed; take the same speed variation as supposed in the petrol engine, 1,000 and 500 revolutions per minute. At the high speed, a given point of cut-off will utilize the whole steam supply, and give, say, 40 i. h. p. at 90 pounds more pressure. At the low speed, 500 revolutions, the cut-off must be later to use the whole steam generated, and then the steam weight used per revolution will be doubled; the mean pressure will not be doubled, but it will be greatly increased. Say that it rises from 90 to 150 lbs. per square inch, then the i. h. p. at half speed will be 33⅓. The steam engine thus possesses considerable flexibility, although it has not the ideal flexibility assumed to exist in the horse.

"True flexibility in a motor requires the property of producing maximum power at both high and low speeds, and this property is to some extent present in the steam engine, and almost absent in the gas or petrol engine.

"What is commonly called flexibility in a petrol motor is in reality controllability, which is a different thing.

"The steam engine could be more closely followed in this matter by supplying the petrol motor with a constant or even an increasing weight of charge as the speed of rotation falls in the manner which I have already suggested. Recent improvements in the petrol engine, such as very large inlet and exhaust valves and very light pistons and moving connections, have made it possible to greatly increase the total power to be obtained from cylinders of given dimensions by permitting of longer strokes and higher speeds of rotation, while keeping up the weight of charge dealt with per stroke. . . . .

"While even better results may be desired on the two points—clutch connection and true flexibility—another important matter requires persevering attention. I refer to the exhaust products discharged into the air of our streets; the rapidly increasing use of motor cars raises study of the carburetter to a position of importance.

"It has been clearly proved that the product discharged from an engine when the mixture of petrol and air is properly proportioned is innocuous in its chemical nature; combustion is almost complete; but when proportion is incorrect, and vaporizing action imperfect, the products are noxious. Carburetters at present proportion correctly at two or at most three points of load and speed; at intermediate points some deviation occurs.

"The problem of proportioning accurately and automatically for all speeds and loads is one of great difficulty, and existing devices provide an imperfect solution. It cannot be too firmly borne in mind that a mixture of constant composition is required at low and high speeds and low and high loads.

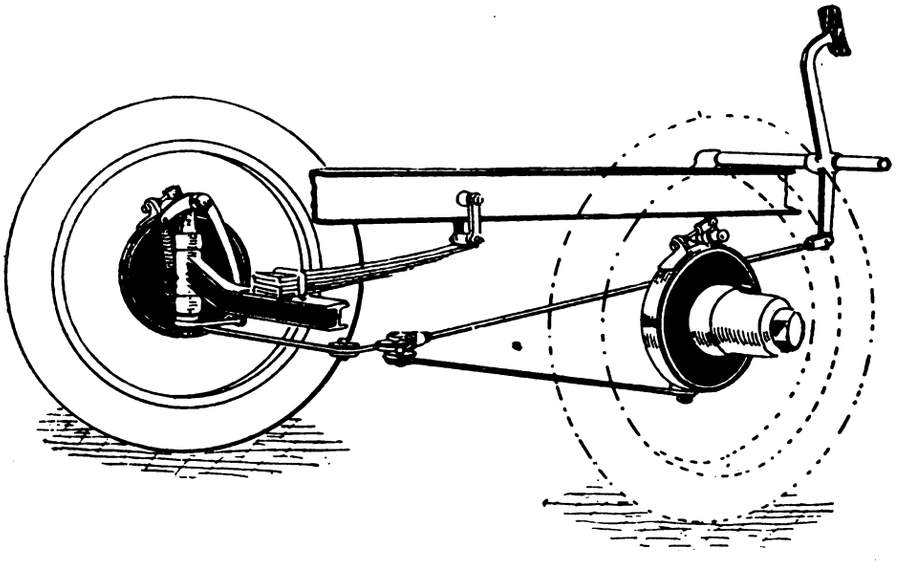
"Methods of carburetter control which depend entirely on engine speed cannot produce accurate results, because the engine may run at the same speed under quite different conditions of throttle opening. What is really required, as I have already pointed out, is some method of controlling depending solely on the charge volume which passes the jet."

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FRONT WHEEL BRAKES UNDER TEST

Details of Foreign Device Designed to Prevent Side Slip—Results of Severe Road and Hill Trials.

It is somewhat unfortunate that the subject of front wheel braking has been given so scant attention by American engineers as a class, as it is commonly recognized to be fraught with great possibilities in the way of preventing skidding and in equalizing tire wear—both, elements of expense and danger which the user would be glad to see disposed of to better advantage. In England, where front wheel braking has been used to a certain extent upon tri-cars, there is a disposition to regard the subject a little more seriously than here, with the result that several systems have been devised. One of these which has recently come to notice is the Allen-Liversidge, which is so contrived that it may be operated irrespective of the position of the steering knuckles.



The general arrangement of the brakes in question may be seen from the accompanying illustration, shown by the Autocar, in connection with an account of a recent trial of the system. "In the Liversidge brakes," remarks the print in question, "the steering pivots are inclined, so that a line drawn through their centers, if produced. would reach the center line of the tire at its point of contact with the road. This, it is claimed, is equivalent to placing the brake drum head in the center of the wheel—a position which is the ideal one if the steering is to be unaffected. Levers of considerable length are fitted to exert the greatest possible amount of power upon the brake drums with the smallest possible movement of the wires."

By the use of a central drag link attached to the pedal and a cable equalizing device, the pull is transmitted to the levers of the individual brakes, which are arranged to swing with the knuckles and therefore preserve a constant relation to the drums at all times. The equalization compensates for the swing of the knuckles and is so contrived that it is possible to turn the wheels without interference even when the brakes are applied. In fact, according to the observer, no tendency to hinder the steering action was manifest during the test except such as was caused by the side-slipping of the front wheels themselves, due to their loss of traction when retarded and still urged forward by the momentum of the vehicle as a whole.

One of the principle advantages of front wheel brakes is their utility in correcting skidding tendencies brought about by the application of the rear wheel brakes. Referring to a trial intended to demonstrate this particular advantage the writer quoted mentions a stretch of road "having a surface which was distinctly treacherous."

"The back brakes were applied suddenly," he says, "and the car described a quarter of a circle, but before it had time to go any further—and it was fairly on the swing at the time— the back brakes were withdrawn and the front brakes applied, and the car came under control as if nothing had happened." On a hill test over a gradient of approximately 1 in 8, the front brakes alone were found to be sufficient to hold the car satisfactorily.

The makers of this arrangement are already preparing to fit front brakes to any car in place of the more usual propeller shaft or counter shaft brake, and so great is their faith in the system that they offer to remove it and replace the old foot brake in the event of failure in action. The alterations required in the car include a change in the angularity of the knuckles or pivots in cases where the pitch is not sufficient to bring the tread line of the front tires into the projected axis of steering movement, while in some cases the stub axles also require to be reinforced.

STUDYING THE SLIPPAGE PROBLEM

Facts Developed by Long Series of Tests on the Brooklands Track—How Speed Increases Amount of Slip.

How far the frequently excessive wear of the rear tires of a motor car may be governed by the slippage of the wheels, and what factors may be taken into account to reduce this element of annoyance and expense is somewhat difficult to determine at the present time. Certain it is that because of the tractional stresses upon them, the rear tires do slip a good deal more than the front ones and that this results not infrequently in tearing the casings when rough roads are being traversed while under even the best of conditions, it results in a rate of wear which is unpleasantly high.

Hitherto the subject has been given scant attention by engineers. Within a year or so, however, a series of tests have been made on the Brooklands track in England to determine the necessary slippage data on a basis of wheel revolutions, comparing the number of turns made by front and rear wheels, respectively in covering a given course under certain conditions. These results were presented without analysis at first and therefore were of small value to the layman. Reduced to general terms by Henry Souther, technical expert of the Mechanical Branch of the Licensed Association of Automobile Manufacturers, these figures go to show that under the conditions of test the actual slippage may vary from 0.3 per cent. at a speed of 40 miles per hour to as much as 5.4 per cent. at 90 miles an hour.

The tests in question were made on the ideal surface of the Brooklands course, and with round tread tires inflated to racing pressures, so that the results form merely a basis for further investigation. How far the actual slippage on the common highway would be influenced by the altered condition of the road surface is indeterminate just at present. At the same time, these experiments are of great value in calling the attention of motorists and engineers to the fact that the actual amount of slip is really much greater than might be anticipated.

A peculiar fact brought out in this connection is that in making turns the inside wheel tends to slip a very little more than the outer one. According to Souther's analysis of the results, this is accounted for by the fact that the centrifugal tendency due to the curvilinear motion of the machine as a whole tends to lighten the pressure on the inner wheel, thus reducing its adhesion and so permitting it to slip a trifle more than the outer wheel, which, of course, has additional pressure brought to bear upon it in proportion to the lightening of the inner

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one. The possibility of excessive differential action is taken into account.

With this basis to work upon, it is greatly to be hoped that further results of a more useful nature will be obtained within a short time, in which varying conditions of road surfaces, tire pressures, weight distribution in the machine, and the variation of slippage with different tire tread surfaces, are taken into account in their proper relation. The subject is of vital importance to the industry as a whole, because of the universal interest attached to tire economy. The British investigators are now well armed for research, having devised special apparatus for the purpose of recording the revolutions of the individual wheels, together with the distance traveled, the speed of the car, and other necessary data. But up to this time little or nothing in this direction has been done in America.

The percentages of slip recorded in the primary tests already reported, as deduced by Souther, are as follows.

0.3 for a speed of 40 miles per hour.
0.6 for a speed of 50 miles per hour.
1.1 for a speed of 60 miles per hour.
1.8 for a speed of 70 miles per hour.
3.7 for a speed of 80 miles per hour.
5.4 for a speed of 90 miles per hour.

Pyrotechnic Disclosure of a New Danger.

A hitherto unsuspected element of danger to the motorist has developed in the broken non-skid chain with flapping ends. One phase of the danger it presents was illustrated in New York City on Sunday evening last, when a dangling tire chain on a car driven by John Casey caught and lodged in the slot of the northbound tracks of the Broadway surface line, at Thirty-fourth street, and when a strip of the chain hung down and touched the power rail, a display of pyrotechnics and a roaring sheet of flame swept along the line for a distance of three blocks, making the Great White Way still whiter. The driver was thrown from his seat when the links caught and the car had to be pushed off the track to prevent it from being burned. For more than 20 minutes, flames sputtered away until a wrecking crew arrived and pried the slot open, releasing the piece of chain. As such devices frequently weaken and break, particularly in the tread portions, a ragged end is liable to be pressed into a slot or to become otherwise entangled, with the danger of a repetition of accident of this sort.

Commission Fixing Horsepower Basis.

Horsepower in all its vagaries and uncertainties is now in a fair way to be cleared up and put upon an equitable basis. A commission of British engineers has been appointed to digest the matter in its fullness and recently went into executive session in London. The commission is composed of members delegated by the Royal Automobile Club, the Society of Motor Manufacturers and Traders and the Institution of Automobile Engineers.

EXPENSES OF THE PRIVATE CAR

Cost of Maintenance and Operation Shown by an Owner's Statistics—Suggestions for Economy in Tire Upkeep.

Maintenance and operating cost for the private owner, while enjoying a temporary lull as a subject of discussion in a competitive way among manufacturers, is nevertheless a matter of diligent inquiry by prospective buyers. In response to a request for figures as to the cost of running a car, based on experience, the owner of a large machine, driven by a chauffeur, has contributed an account of his own expenses, together with some excellent recommendations as to keeping down the tire bills.

"Since 1900 I have owned cars which have made more than 60,000 miles. Since April, 1906, I have operated one seven passenger car 30,000 miles and have paid every item of cost by check, and I have recently compiled the statistics of cost," he declares, by way of qualification. "The items of direct cost, which vary directly with the mileage, are:

	Cost a mile.
Tires	5.0 cents
Gasolene	2.7 "
Lubricating oil	.2 "
Incidentals	.9 "
Total	8.8 "

"My car averages 1,000 miles a month. It makes a yearly average of 7½ miles a gallon of gasolene. It makes 205 miles a gallon of lubricating oil.

"Disregarding interest and depreciation, which is largely a matter of judgment, and assuming the car to be owned in a suburb of New York City and that it makes an average of 1,000 miles a month, the following is my estimate of cost a year:

Tires	$500
Gasolene, oil, acetylene and repairs	500
Chauffeur and rental private garage	1,300
Direct cost a year	$2,300

"The most difficult item to keep down to the above figures is 'tires.' I now use demountable rims and 4½-inch tires exclusively. I carry in the rack two blown up tires upon their demountable rims, and have a seventh tire and rim habitually at the repair shop. The secret of low tire cost is continual repairs made as soon as needed. With seven demountable rims and tires it is no trouble to keep the tires always vulcanized and in perfect repair. Whenever a cut reaches the canvas that rim and tire should go at once to the repair shop and a spare one should be substituted. Such repairs cost but little and the repaired tire, blown up on its rim and ready for use, can be returned to you the next day. My chauffeur is as good as they grow them near New York, but until I got demountable rims and discovered a reliable tire repair shop I found it impossible to keep my tires always in proper shape. Insist upon vulcanized repairs whenever you can see the canvas; keep your tires pumped to 80 pounds and have seven identical demountable tires and rims, and you can make the tire cost only three or four cents a mile."

Cleaning and Adjusting Spark Plugs.

Most motoring novices learn how to clean and adjust spark plugs properly without much difficulty, but frequently are surprised to discover that their efforts are of small avail. One reason for this is that not infrequently when endeavoring to insert a plug in a hot motor the nervous driver knocks the sparking end against the cylinder opening in trying to locate the thread. The usual result is that the points which have been so carefully adjusted are forced together once more and consequently the expected forceful spark fails to materialize. A further source of difficulty in the same connection arises from the inbred conviction that once attended to the plugs require no further inspection, so that when this happens the trouble hunter wanders off vaguely and needlessly into the intricacies of coil adjustment.

Law Suit to Suppress Garage Noises.

Annoyed by the intermittent explosions from gas engines used by the Star Electrical and Garage Co., of Erie, Pa., a number of property owners in the neighborhood have filed a bill in equity against the concern, asking damages and praying for an injunction which will put a stop to the engines. The bill sets forth that the noise has inconvenienced and distressed the plaintiffs and their families, depriving them of sleep and thereby endangering and injuriously affecting their health. It also is claimed that property values have been lowered as a consequence of the noise, and special complaint is made of the fact that the garage frequently operates all night working on automobile repairs.

Louisville Imposes Tax on Garages.

Automobile dealers of Louisville, Ky., are chafing over the recent passage of a license ordinance which provides for an annual assessment on all garage proprietors regardless of the number or class of machines housed. The ordinance provides that "Each person, firm or corporation who keeps or operates a public garage in which automobiles or similar machines driven by gasolene, steam or electricity are kept in storage or for sale or rent, shall pay a license of $100 per year."

Norfolk Has Automobile Milk Wagon.

Milk delivery by automobile has had an introduction on this side of the water. C. A. Bremer, owner of the Paradise Creek dairy, at Norfolk, Va., has a motor car milk wagon in service which is attracting great attention.

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FIGHT AGAINST MAIL ORDER FINES

Trenton Magistrate's "Absent Treatment" Undergoes Legal Scrutiny—Test Case Pending in Higher Court.

"Absent treatment" of the foreign invader of New Jersey's peaceful countryside after having constituted a source of untold annoyance to the motorists of other states for many months as well as an occasion for considerable expense, the legitimacy of much of which is in question, is now receiving the attention of the courts through a civil action which has been instituted by the Automobile Club of America, through Attorney Richard Boardman, of Jersey City. Manfred Naar, a Trenton Justice of the Peace, is being sued for the recovery of a fine which it is charged he imposed by mail upon an absent motorist for an alleged violation of the speed law. The case is the outcome of a long series of complaints which have been received from motorists who have been, to to speak, arrested, tried and fined by mail, and is brought as a test of the legality of the method.

According to the complaints upon which the A. C. A. has based its action, Naar's method was to have a constable concealed along the Hightstown road for the purpose of jotting down the numbers of passing automobiles. Shortly afterward the owners of cars corresponding to the numbers caught in this way would be notified that they were accused of violating the speed law on a certain day, and proposing to fix a day for trial at Trenton. As the notices were sent largely to non-residents of the State, many of whom would find it a hardship to spend the better part of a week day in Trenton, the accused would ordinarily reply to that effect, upon which a second letter would be received stating that the entire matter could be disposed of by the payment of a fine and costs. The fines ranged rfom $1 to $25, and the costs amounted to about $3.50. Counting the value of his own time into account, together with the expense of the trip to Trenton, the motorist usually found it cheaper to submit to the mail order method of punishment than to stand trial in the regular way. Hence the formality of a defense was usually foregone and the fine paid without question, although in some cases, it is said, the owners themselves were not in their cars at the time of the alleged violation of the law.

When brought to the attention of the A. C. A., the matter was referred to Chairman Winthrop E. Scarritt, of the committee on public safety, who in conjunction with the club attorney, W. W. Niles, made a thorough investigation and then arranged for the prosecution of the test case. The attention of the criminal authorities of Trenton also has been called to Naar's methods, and if the contention that they are illegal is upheld, an effort will be made to secure an indictment against him.

In a wordy defense, Squire Naar responds through a local newspaper that he never "instructed nor had paid officers on any roads of this county for the purpose of taking the number of any automobile passing through"; that he has issued summonses on about 2,000 complaints sworn to before him, and that in the vast majority of cases "summons have been served and service acknowledged by persons complained of for violating the automobile law." He justifies his system of notification on the basis of arranging for trial at the convenience of himself, and the accused, and alleges, "In each and every case where I have imposed a fine it has been where the parties complained of pleaded guilty."

Chicago Club Elects Opposition Ticket.

The "opposition ticket," as it was called, scored a decisive victory at the annual election of the Chicago Automobile Club, held on Thursday, November 12. The ballot resulted in the following members being chosen by a large majority: Ira M. Cobe, president; T. N. Koehler, vice-president; T. J. Hyman, second vice-president; C. A. McDonald, secretary, and George S. White, treasurer. The directors include B. B. Johnson, Claude Seymour, J. F. Gunther, Allen S. Ray, F. W. Blocki, and John Farson.

There were three separate factions in the field; the "administration" ticket, the "members" ticket, which was the choice of the nominating committee, and the "oppositionists" who sprang up at the eleventh hour. It seems that the latter coterie did not care for the other candidates nominated, with the exception of president Ira M. Cobe, who was endorsed by all and sure of re-election. So the "antis," the majority of whom are members recruited during the past year, headed by Ban Johnson, of baseball fame, put up a slate of their own and did considerable electioneering with remarkable success, for of the 210 votes cast, 115 were straight ballots for the latter party, and 59 split ballots also favoring it.

In his annual report, president Cobe asked the members to join in assisting the passing of the proposed convict labor law, for the purpose of furthering the interests of good roads. He also expressed his hopes of holding the much talked of Jefferson De Mont Thompson stock chassis race on an Indiana course next year and was in favor of making the inter-club contest with the Chicago Athletic Club an annual event.

Boston Gives Archbishop a Car.

At least one congregation has settled the burning question, "Should clergymen motor?" in a satisfactory way. Archbishop O'Connell, of Boston, has been presented with a luxuriously appointed landaulet by the Catholic laity of the Hub.

RURAL COURT PRACTICES REBUKED

Conviction of Motorist Reversed for Irregularities—Pennsylvania Court Renders Important Decision.

Important as a victory over the system which has for some time prevailed in Pennsylvania of noting the numbers of cars passing through speed traps and convicting their owners summarily, a decision of grateful import to motorists has been handed down from the bench in the common pleas court of Montgomery county. In effect, the decision will make it a great deal harder for constables and rural magistrates to make their mulcting program stick, and will free automobilists from much legal embarassment. Charles W. Bacon, a real estate dealer of Philadelphia, determined not to submit to the results of the action of a local magistrate in declaring him guilty of speeding on evidence consisting merely of the taking of his number. He secured a reversal of the local magistrate's decision.

"The record of the justice sets forth that an automobile, No. 15,775, was driven on a public road in Lower Providence township at a rate of speed exceeding that allowed by law," says Judge H. K. Weand, in his opinion; "but there is nothing to connect the defendant with the car or the act. It is not set forth that he was the owner of the automobile or in it at the time.

"If he did own it, and it was used without his knowledge, orders or consent, he would not be liable, otherwise he could be sent to jail for an act done without his knowledge by persons for whose acts he would not be responsible.

"To sustain this conviction we must hold without evidence, that he was the owner and its occupant at the time alleged, or at least that it was being used for his purpose and by his consent.

"A summons was issued and defendant appeared and made no defense. As there was no evidence connecting him with the violation of the law he was not required to make a defense.

"The proceedings are otherwise irregular in that the justice after fining the defendant required him to give bail for his appearance at court. And, November 12th, 1908, after argument and due consideration, the exceptions are sustained and proceedings set aside."

Show Profits to Pay for Club House.

Profits from the Denver automobile show, which is to be held under the auspices of the Denver Motor Club about December 1, are to go toward the establishment of a country house for the club. The show will be held in the Denver auditorium. The club is spending its present surplus in posting the route from Denver to Colorado Springs.

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AUTOMOBILES MAY OPEN ALASKA

Systems of Good Roads Making a Tourists' Paradise—Motor Cars the Probable Precursors of Railways.

Frigid, barren and uninviting as Alaska may sound to the uninitiated, as a place for automobile touring it will before many years make a strong bid for popularity, according to those familiar with the country. This is due to the fact that the whole interior is being opened up by a series of splendid roads, which in structure and in scenic beauties are to rival those in any other portion of the world. The projection and building of these roads is under the charge of the Alaska road commission, a government institution, and the highways that are at present planned and under course of construction will make the whole Alaska district easily accessible by motor car.

Contrary to popular impression, the climate of Alaska is exceedingly mild and agreeable during the summer months, resembling that of the northern states in the late summer or early fall. In portions nearer the Pole, the constant daylight presents novel phenomena for the summer tourist, but otherwise the country does not differ materially from the more rugged portions of the United States.

In outlining what is being done, Major W. P. Richardson, chairman of the road commission in Alaska, who has recently returned from the scene of his labors, makes it clear that the roads are to be of a character that will make them entirely suitable for automobile travel.

"As each year passes," he said, "we have the pleasure of knowing that the trunk line roads are being connected to such an extent that it will be only a few more seasons until summer travel in Alaska will be as easy as it is in any state. In fact, I think when we have our roads completed some of the states might pattern after us.

"If any one will look at a map of Alaska he will see that the greater part of the exploited territory is at or near the rivers. This is a simple way of saying that steamboats have been the only means of summer communication, except where roads have been constructed from trading posts to the diggings. All this will change when we have completed the three big lines of trunk roads planned and to a certain extent carried out.

"Beginning at Valdez," continued Major Richardson, "we now have a fine road up through Keystone canyon to Wortmans. That canyon, which has blocked more travel than any one piece of river in all Alaska, can freeze or stay open, we care not which. A road was blasted out of the solid rock to get through, but it was worth the money. At the same time it is a scenic road, for it is nothing but a shelf, in many places the rocks hanging right over the road. From there across Dutch Flat a fine road had been built to Wortmans, and an eight foot trail, which can be traveled by a wagon or automobile, having an easy grade, leads over Thomson Pass.

"Next year we intend to put a bridge across the Gulkana River and with the road we have partially and fully completed, added to what we will do next year, the line will be ready for stages the following year. I rode on a buckboard for 150 miles out of Fairbanks and made fine time. Next year we will widen the road down the Big Delta and put a ferry on the Tanana at McCartys. During the past summer three droves of cattle were driven from Valdez to Fairbanks.

"I am saying we are going to do this. It depends, of course, on our appropriation. We will go before Congress at its next session with a well-defined plan for completing the roads we have planned.

"During the past summer we have built a fine wagon road up the Porcupine country from Haines. This road is now at the boundary line, and we hope to get enough money to put it through to the head of the White and Tanana rivers, forming a junction with the Valdez road at McCartys. If we can get the money to complete this road, we will have accomplished something which will open up thousands of square miles of a rich country, only awaiting transportation, and the roads will make it possible for miners to begin that development which in a few years will attract railroads.

"Our other trunk line road, which may be held back for a year or so to see what development takes place on the Kuskokwim and the Innoko, is planned from Sunrise, on Cook inlet, up through the Sustina valley, across the head of the Kuskokwim, through the Innoko country, across the Yukon at Kaltag, and thence to Norton Bay. If the country this proposed line passes through makes a substantial showing, the road will without doubt be built at once, for I have found Congress willing to give the money when it can be shown that any region is producing something good.

"Now, while these trunk lines will mean much to the big camps, the branch lines will be come the feeders that will make these highways alive with people in a few years. Over these roads the poor man can walk to his destination. Freighting teams can deliver supplies at places, at a fair cost, which now it is almost impossible to reach with provisions. Winter or summer, the roads are there to travel, and, instead of a spring rush in and a fall rush out, a man will come and go back when he pleases. Mail will not be held back for days because some boat gets on a bar. It can be delivered summer and winter on a regular schedule. The man on foot, with a dog team, horse and cutter or automobile are on a level. The roads will be there for their use."

$50,000,000 WANTED FOR ROADS

Pennsylvanians Move to Promote Legislation for Highway Improvement—Three Measures Proposed.

Spurred by the example of New York and the New England States, the good roads enthusiasts of Pennsylvania are making an assault on the Keystone State's legislature with a view to prying out $50,000,000 for highways. Foremost in the work is the Pennsylvania Motor Federation's good roads committee, which has appealed to the mayors of 1,000 cities and to 6,000 township commissioners and road supervisors to join together an an auxiliary committee and get all the signatures possible to a set of petitions which will soon be presented at the state capitol.

The petitions ask the members of the legislature to support three separate good roads bills in the next session and also to appropriate not less than $3,000,000 for use under existing laws. The first of the proposed bills provides for a constitutional amendment authorizing the issuance of $50,000,000 in bonds for highway improvement. The second bill asks for an appropriation of not less than $5,000,000 for immediate use, and also for the appointment by the governor of a state board who shall designate the location of the main state highways to be constructed and maintained by the state, as well as determine where the state aid system shall be applied, and further provides that such board shall be authorized to purchase certain toll roads. The third measure comprises a plan for the application of preservatives to the stone roads constructed by state aid. The revenues necessary for this plan would be derived from motor vehicle license fees. The three bills are designed to work in harmony to effect the one purpose, and, as indicated in the description, are practically complementary to each other.

"Even under the most favorable circumstances, it will take five years to obtain an amendment to the constitution whereby the $50,000,000 in bonds may be issued," explained J. H. Weeks, chairman of the good roads committee. "It is because of this fact that the second bill was drafted by the federation asking for an immediate appropriation of $5,000,000. This will give us an opportunity to secure a partial improvement of the state's bad roads now, inasmuch as it can be passed immediately under the present laws. We expect to obtain the signatures of 80 per cent. of the voters in every election district in the state to the petitions which we have sent out, and by the early part of January we further expect to be able to go to Harrisburg with something like 700,000 or 800,000 names on our list."

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Made In Bridgeport

An Appreciation of

The Locomobile Company of America

From

The Bridgeport Board of Trade

Whereas,

The contest for the **Vanderbilt Cup**, the most highly prized trophy in the world for the winner of an international automobile road race, was won by **George H. Robertson** on the 24th day of October, 1908, by covering a distance of **two hundred and fifty-eight and 6/100 miles in two hundred and forty minutes and forty-five seconds**, in a ninety horse-power **Locomobile Made in Bridgeport** by **The Locomobile Company of America**, being the first American driver and the first car of American manufacture to be the victor in this international struggle for supremacy; and

Whereas, The automobile whose position in the race would have been third had the crowded track permitted the car to finish, was also a **Locomobile** manufactured by **The Locomobile Company of America** and driven by **James Florida**; and

Whereas, Notwithstanding the skill, hardihood and daring of the driver, the race could not have been won but for the **superior strength, design, workmanship and construction of the Locomobile**; therefore be it

Resolved, That The Bridgeport Board of Trade, recognizing that this gives the city of Bridgeport further cause for Local Pride, expresses and it does hereby express its appreciation of the honor done to Bridgeport, The Industrial Capital of Connecticut, by The Locomobile Company of America in so perfecting its manufacture as to produce a car capable of defeating all other entries both foreign and domestic, of breaking the time record in the international race for the Vanderbilt Cup and breaking all records in America for road racing; and be it

Resolved, That The Bridgeport Board of Trade express, and it does hereby express its appreciation of the Ability, Talent and Genius of the designer of the Locomobile, Mr Andrew L. Riker; and of the skill, careful and exact workmanship and the thorough mechanical knowledge of the highly trained mechanics of Bridgeport, all of which brought the glory for the winning of a hard fought contest to the city of Bridgeport; and be it

Resolved, That these resolutions be suitably engrossed and presented to

The Locomobile Company of America.

Fred Fred President.
William A Smith Secretary.
Treasurer.

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The Week's Patents.

895,437. Tire Protector. Louis Crise, Upper Sandusky, Ohio, assignor of one-half to Charles F. Close, Upper Sandusky, Ohio. Filed Nov. 15, 1906. Serial No. 343,616.

1. In a tire, the combination with a wheel rim, of a pneumatic tube open at its inner side only and having the said inner side secured to the wheel rim, clamping plates fitted against the outer portion of the tube and partially encircling the same, said plates having outstanding flanges, a solid cushion of yielding material fitted between the plates and bearing against the outer side of the tube, said cushion projecting beyond the flanges, and means for connecting the plates together and clamping the cushion between them, and plates and cushion being removable from the tube without affecting the engagement of the latter with the rim.

895,301. Tire. Alfred G. Ritchie, San Jacinto, Cal. Filed Aug. 7, 1907. Serial No 387,467.

1. A vehicle wheel having a rim provided with peripheral flanges one of which is removable, in combination with a cushioning tire having recesses in its inner side forming localized air cushions therein and bolts connecting such flanges together, extending through such tire and also extending through certain of such localized air cushions.

895,525. Brake Mechanism. Rollin H. White, Cleveland, Ohio, assignor, by mesne assignment, to The White Company, Cleveland, Ohio, a Corporation of Ohio. Filed May 10, 1906. Serial No. 316,074.

1. In an automobile, the combination with the rotatable wheel, a brake drum fixed thereto, and a non-rotating disc within said drum in a plane at right angles to its axis with arc shaped brake shoes located within said drum and provided with internal circumferential grooves which embrace the edge of said disc, means for thrusting said shoes apart and into contact with the drum, and a spring for drawing apart and into contact with the drum and a spring for drawing said shoes together upon said flange.

895,557. Lubricator. Charles C. Haller, Chicago, Ill., assignor to McCord & Company, Chicago, Ill., a Corporation of New Jersey. Filed July 25, 1907. Serial No. 385,511.

1. In a lubricator, the combination of a casing having admission and discharge ports, a cylindrical valve adapted to oscillate in said casing and having ports therein for communicating with the ports in said casing, a piston working in said valve, tappets for operating said valve and reciprocating said piston and a rotating member common to said tappets for operating them.

895,561. Vehicle Wheel. John B. Hembree, Piedmont, S. C. Filed May 21, 1907. Serial No. 374,816.

The combination with a solid rim or felly having an annular transversely concaved channel in its periphery and sets of opposite spaced undercut elongated sockets opening into the opposite sides of the channel and disposed at intervals about the rim or felly longitudinally thereof, said sockets tapering toward their inner ends to substantially sharp corners and having flat end walls forming stop shoulders, of a pneumatic tire that is seated in the annular channel, said tire comprising a single integral yielding wall that is substantially circular in cross section and has oppositely outstanding integral spaced elongated lips or tongues of yielding material located at intervals around the inner side thereof on opposite sides of the center of its inner wall and engaged in the sockets of the rim or felly, the lips or tongues being outwardly tapered to substantial edges and filling the sockets, said lips or tongues having flat ends disposed at substantially right angles to the tire wall and abutting against the flat end walls or shoulders of the sockets, said tire being thereby interlocked with the rim or felly and being held by said abutting end walls or shoulders against longitudinal movement or creeping thereon, the lips or tongues slipping freely into and out of the sockets when the tire is deflated.

895,618. Power Transmitting Device. Leonard K. Clark, New York, N. Y. Filed Nov. 20, 1906. Serial No. 344,348.

1. In a power transmitting device the combination with a generator having a rotary armature member and a rotary field member and a motor having a rotary armature member and a fixed field member; of means for rotating the field member of said generator and means for coupling together and uncoupling the generator armature member and the motor armature member.

895,632. Collapsible Foot-Rest for Vehicles. Charles J. Harris, Bridgeport, Conn. Original application filed Nov. 5, 1906. Serial NoN. 341,966. Divided and this application filed May 22, 1907. Serial No. 375,127.

1. A collapsible foot rest for vehicles, comprising a pair of notched plates, a foldable jointed frame consisting of side links pivotally connected to one another and at their opposite ends provided with means for removably engaging said notches, and a foot board secured to the corresponding side links.

895,645. Valve Timing Device for Explosive Engines. Lester L. Kell, St. Louis, Mo. Filed Dec. 17, 1907. Serial No. 406,903.

1. In a device of the class described, the combination of a support, a longitudinally movable element on the support, a yielding means for holding the element in normal position, an adjustable member normally separated from the element and movable therewith, a member yieldingly engaging the adjustable member for holding the latter in normal position, means for connecting the second member to one side of a signal including circuit, and means for connecting the element with the other side of such circuit.

895,661. Automobile Construction. William Morrison, Chicago, Ill., assignor of one-third to M. A. Lumbard, Des Moines, Iowa. Filed Oct. 31, 1904. Serial No. 230,877.

1. An automobile comprising vehicle wheels, a suitable body, a motor swingingly mounted on said body, springs interposed between said body and wheels, said motor having a casing composed of segment shaped sections, said sections being adapted to provide a hollow flanged boss, a sprocket wheel having its shaft extended through said boss and connected with the motor shaft, a rear axle construction having a casing provided with a hollow flanged boss, another sprocket wheel provided with a shaft extending through said last mentioned hollow boss and suitably connected with the rear axle of the vehicle, a sprocket chain connecting said sprocket wheels, and a casing inclosing the chain and sprocket wheels, the said casing thus inclosing the sprocket chain and the sprocket wheels being divided both longitudinally and transversely into sections which are rotatably mounted upon said hollow flanged bosses, and a threaded coupling adjustably connecting the ends of said sections, whereby the proper distance is maintained between said sprocket wheels.

895,670. Speed Indicator. Edd C. Oliver, Minneapolis, Minn. Filed July 8, 1907. Serial No. 382,681.

1. In a speed indicating device, the combination, with a rotating spindle, of a weight centrally pivoted thereon, a spring connected with said weight and arranged to swing on a different center, whereby it will be put under tension by the oscillation of said ring, the longitudinal axis of said spring intersecting approximately when extended, the pivot of said weight, when in the normal or zero position and a dial having an indicator hand and means for transmitting the movement of said ring to said hand.

895,709. Carburetter for Hydrocarbon Engines. Edwin F. Abernethy and George H. Abermethy, New York, N. Y. Filed Jan. 19, 1904. Serial No. 189,671.

1. In a carburetter, a fuel valve provided with a plurality of fuel passages, adjustable means co-operating with said valve for varying the area of said passages, and means operated by a suction draft through the carburetter for operating the fuel valve.

895,732. Construction of Batteries and Electrolytic Apparatus. Frank A. Decker, Philadelphia, Pa., assignor, by mesne assignments, to Decker Electrical Manufacturing Company, Wilmington, Del. Filed Feb. 11, 1905. Serial No. 245,223.

1. In apparatus of the class described, a plurality of battery parts forming several compartments, said parts being secured together and sealed by a plastic vulcanized in place, thereby rendering said compartments liquid tight.

895,762. Detachable Rim for Automobile Tires. Richard E. Jeffery, Piedmont, Cal. Filed March 20, 1907. Serial No. 363,403.

A wheel rim comprising a rim portion, a rim section surrounding said portion and secured thereto, said section having an annular flange surrounding one edge, a ring thickened along one edge and secured to said section, and having the remaining portion reduced in thickness to form an annular socket between the reduced portion and the corresponding portion of said section, and a removable section having an annular flange surrounding one edge and having bayonet-slots opening through the inner edge of the removable section being adapted to enter edgewise and be inclosed in the socket formed beneath the ring, lugs struck up from the face of the fixed section and adapted to enter and interlock with the bayonet slots of the removable section, and spring pressed latches carried by the rim and passing through the fixed and removable sections to lock the sections, said latches having offsets normally fitting perforations in the fixed section, said latches being capable of a limited rotated movement to carry said offsets out of said perforations to thereby hold the latches in inoperative position.

895,767. Radiator. Thomas J. Kehoe, Dayton, Ohio. Filed April 5, 1906. Serial No. 309,990.

1. In a radiator having parallel hollow sections, a series of plates each of which has numerous protruded tongues on one of its sides, said plates being secured respect-

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ively with their flat sides against the corresponding sides of said sections.

895,838. Automatic Pump for Tires. James C. Booth, Columbus, Ohio. Filed Aug. 16, 1906. Serial No. 330,800.

1. The combination with an axle having wheels journaled thereon and pneumatic tires carried by said wheels and with air valves operative through the rims thereof, of circular plates secured to said wheels, eccentrics revolubly mounted upon said plates and each having a laterally inward extending stop lug, and laterally extending fianges adapted to receive fastening means, eccentric bands mounted upon said eccentrics, pump cylinders pivotally carried by said wheels adjacent to the tires thereof and connecting with the air valves of said tires, pistons operating with the air valves of said tires, pistons operating in said cylinders and connecting with said eccentric bands, rods slidably mounted upon said axle and adapted to engage the stop lugs of said eccentrics, and means to move said rods, substantially as described.

895,941. Vehicle Wheel. Linda H. Barry, Durango, Mexico. Filed Oct. 10, 1906. Serial No. 338,263.

1. A vehicle wheel, comprising a rim, a plurality of longitudinally curved spring members clamped to the rim and formed with upwardly and inwardly-curved ends, a plurality of longitudinally curved springs forming tread members, the outer ends of which are curved downwardly and inwardly and are overlapped by the curved ends of the first named springs, clips having side flanges between which the curved ends of the respective spring members are received, and means for uniting the clips to said curved members.

895,958. Electromagnetic Sparking Plug. Otto Carlborg, Providence, R. I. Filed June 9, 1906. Serial No. 320,972.

1. In an electric-magnetic sparking plug of the character described, the combination with a lower section or plug member proper adapted to be removably secured to the cylinder of an explosive engine, and normally contacting fixed and movable electrodes mounted in said section, of an upper section secured to said lower section so as to produce a comparatively large open air-circulating space between their adjacent ends, an electro-magnet and armature mounted in said upper section and operatively connected with said electrodes so that when in use upon energizing the magnet the resulting movement of its armature automatically separate said electrodes to produce an electric spark, the heat from the plug at the same time being materially reduced or tempered by air circulatnig in the said open space, substantially as described.

895,975. Auxiliary Relief Wheel Rim for Motor Cars and Vehicles. Thomas M. Davies and Walter Davies, Llanelly, England, assignors to The Stepney Spare Motor Wheel, Limited, Llanelly, England. Filed April 11, 1904. Serial No. 202,582.

1. The combination of an auxiliary wheel rim, inwardly projecting radial guides fixed to said rim, an abutment upon each of said radial guides, a hook-shaped clip movably mounted in each of said radial guides and adapted to engage the outer periphery of a vehicle wheel rim, and adjustable means securing said hook shaped clips to said abutments, substantially as herein shown and dscribed.

895,982. Gasolene Engine with Mixing Cylinders on Crank Cases. Frederick A. Dobbins, Newark, N. J. Filed June 21, 1907. Serial No. 380,024.

1. The explosive vapor engine having an explosion cylinder, the crank-casing below such cylinder having bearings at opposite sides, with crank shaft extended across the same and provided with a bent crank below the explosion cylinder and with an eccentric at the side of each crank arm within the bearings, a gas mixing pump cylinder projected horizontally at one side of the casing, and the two eccentrics having direct connections to the pump piston, equi-distantly from the center of the piston whereby the pump cylinder may be disposed upon the center line of the bent crank and bedplate.

895,984. Pneumatic Hub. John Duchan, Elizabethport, N. J., and Roland Duchen and Johann Duchan, Vienna, Austria-Hungary. Filed March 16, 1907. Serial No. 362,662.

1. In a wheel, is combination, a hub having a bore, a tubular case received in said bore and presenting a projection on the inner side thereof, a sleeve, and a pair of pneumatic pads disposed around said sleeve and filling the space between said sleeve and said case, said projections affording means for preventing the rotation of said pads relative to said case.

896,034. Transmission Gearing for Automobiles. Grover I. Mitchell, Cornell, Ill. Filed April 4, 1908. Serial No. 425,105.

1. In a transmission gearing for automobiles, a motor driven shaft having a thrust bearing, a wheel upon said shaft having a friction rim, a transmission shaft suitably supported in axial alignment with the motor drives shaft, a hub supported slidably and adjustably upon the transmissios shaft for rotation therewith and carrying a wheel having a friction rim, a shaft supported slidably at right angles to the motor driven shaft a friction disc carried by said motor driven shaft adapted for engagement with the rims of the wheels upon the motor driven shaft and the transmission shaft, and a spring supported idler adapted for engagement with the face of the friction disc.

896,057. Automatic Starter for Gasolene Engines. Franklin A. Corey, Santa Paula, Cal. Filed Dec. 16, 1907. Serial No. 406,806.

1. In an automatic engine starter, a casing provided with a recessed hub, a recessed collar in said hub adapted to be secured to said shaft, balls mounted in said recesses, means for locking said casing against rotation in one direction, a spring within the casing having one end secured thereto, and intermittent grip mechanism for detachably connecting the other end of the spring to said shaft.

896,104. Guard or Fender for Vehicles. Charles W. M. Guhle, Philadelphia, Pa., assignor of one-third to Frederick J. Ritter, Philadelphia, Pa. Filed Jan. 20, 1908. Serial No. 411,594.

1. The combination with the running gear of a vehicle, of protective means extending outside of said running gear, parts of said means being pivoted to said vehicle to permit the same to be swung clear above the running gear.

896,112. Starting Device for Hydrocarbon Engines. Russell Huff, Detroit, Mich., assignor to Packard Motor Car Company, Detroit, Mich., a Corporation of West Virginia. Filed Nov. 30, 1907. Serial No. 404,522.

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1. In controlling means for motor vehicles, the combination with the mixture inlet pipe and a throttle valve therein, of a starting crank for the engine and connections between the starting crank and the throttle valve whereby the latter is opened when the crank is moved to operative relation with the engine.

896,136. Recoil Compensator. Frederick J. Mellen and Burton A. Edwards, Beloit, Wis. Filed Nov. 14, 1907. Serial No. 402,217.

1. A recoil compensator of the character described, comprising a cylinder forming a chamber for a fluid medium, a solid partition secured in said chamber, a piston mounted to oscillate in said chamber, and formed with a passage extending therethrough, and a relatively small port also extending therethrough, a spring pressed check valve connected to said piston and adapted to close said passage, the piston being formed with a laterally projecting shaft extension extending out of the cylinder, said extension being formed with a bore intercepting said port, an operating arm secured to said extension, and a plug mounted in said bore and adapted to vary the size of the port, as and for the purpose set forth.

896,161. Change-Speed Device. David E. Ross, Brookston, Ind. Filed Nov. 6, 1905. Serial No. 286,015.

1. In a change speed device, a drive shaft, a driven shaft, a member carried by one of said shafts, said member having a grooved surface on its interior, a rotatable device secured to the other shaft within the said member, said device having projections for engaging with the grooves in said member, and means co-operating with said device for controlling the rotation thereof, whereby the relative speeds of the shafts are regulated, substantially as described.

896,195. Universal Joint. Fred H. Bogart, Hartford, Conn., assignor to Hartford Automobile Parts Company, Hartford, Conn., a Corporation of Connecticut. Filed Aug. 12, 1907. Serial No. 388,269.

1. A universal joint comprising an annular bearing plate having diametrically opposed bearings thereon, the ends of which are open, two forked members provided with hubs, the axes of which extent through the axis of said plate, each member having a swinging movement in two of said bearings on opposite sides of said plate, the planes of oscillation of said members being at right angles one to the other, and a two-part casing to inclose the bearing plate, and removably secured thereto.

896,254. Valve for Explosive Engines. Paul Schramm, Alameda, and Ira E. Wise, Wallace, Cal. Filed Oct. 12, 1905. Serial No. 282,440.

In an explosive engine, a valve chamber having a single opening communicating with the cylinder for the entrance of the explosive mixture and for the exhaust of the products of combustion, and provided with a single passage for the admission of a gaseous mixture and an exhaust passage communicating with said opening, and a single valve controlling said opening and passages, said valve comprising a head adapted to seat in the chamber opening, and a hollow cylindrical body portion depending from said head and connected therewith by a reduced portion arranged in one position of the valve to form a direct communication exteriorly of the valve between the cylindrical and exhaust passage, said reduced portion having ports therein adapted when the valve is moved to another position to establish a communication between the passage for the gaseous mixture and the cylinder through the body of the valve, and means for actuating said valve.

896,305. Device for Simultaneously Controling the Spark and Throttle of an Internal Combustion Engine. Hermann Lemp, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed June 30, 1906. Serial No. 324,195.

1. The combination with the spark control and the throttling mechanism of an internal combustion engine, of means for simultaneously regulating the advance and retardation of the spark with reference to the opening and closing of the throttle which changes the point of ignition at a rate proportionate to the sine of a given angle while varying the opening of the throttle at a rate proportionate to the versed sine of said angle.

896,314. Motor Vehicle. James C. McCurry, Texarkana, Tex. Filed Aug. 26, 1907. Serial No. 390,196.

1. A motor vehicle comprising a wagon having a box body, a fixed rear axle, and wheels mounted thereon, a movable front axle and wheels mounted thereon, an explosive engine mounted upon the rear end of the wagon body above the same and having the engine shaft projecting beyond the corresponding side of the wagon body, connections exterior to the wagon body from the engine shaft to the rear wheels for driving the latter, and steering means also exterior to the wagon body and connected to the front axle.

896,317. Clamp for Spacing the Bows of Vehicle Tops Apart. Frank L. Paxson, Philadelphia, Pa., assignor to Percy L. Neel, Philadelphia, Pa. Filed Oct. 11, 1907. Serial No. 397,014.

1. In a clamp for vehicle tops, two bars of rigid material correspondingly corrugated and pivotally and swivelly secured together, substantially as shown and described.

896,353. Filter. Allen A. Bowser, Fort Wayne, Ind., assignor to S. F. Bowser & Company, Fort Wayne, Ind., a Corporation of Indiana. Filed June 23, 1906. Serial No. 323,043.

In the device for the purpose described, the combination of a flat or shallow casing embodying two separable members, one having an inlet and the other an outlet formed in the edges thereof, the member having the inlet opening being also provided with a trap, a diaphragm composed of chamois skin dividing said casing into an inlet compartment and an outlet compartment and having its edges between said members, and spaced ribs formed along the inner face of one of the members in which the outlet is formed in the direction from the inlet to the outlet and bearing against said diaphragm, said members being secured together so that the inlet and outlet openings will be disposed diametrically opposite to each other and with the trap located between the inlet and the outlet openings.

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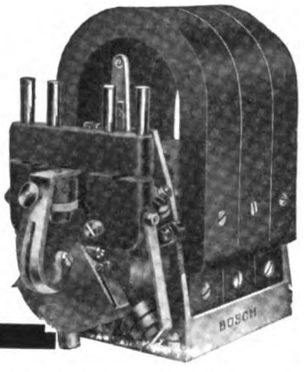
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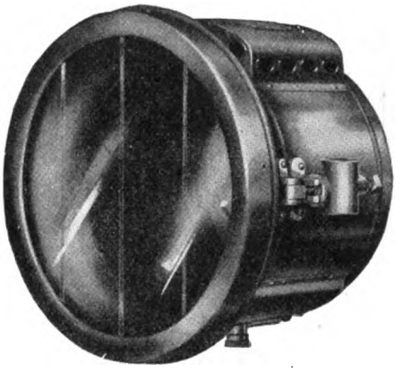
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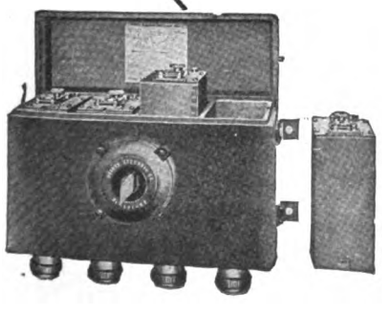
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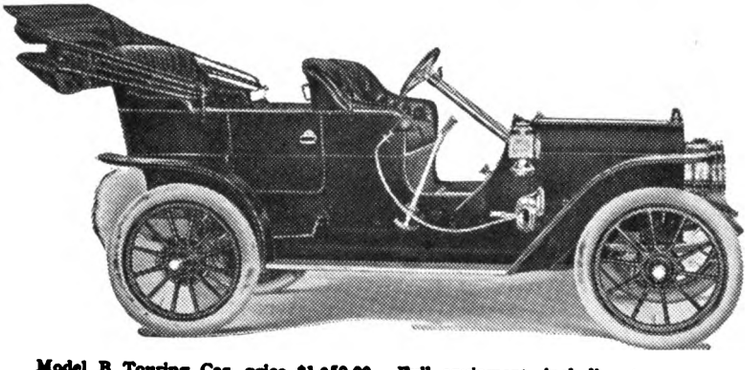
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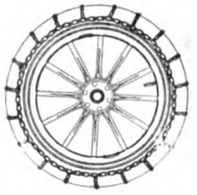
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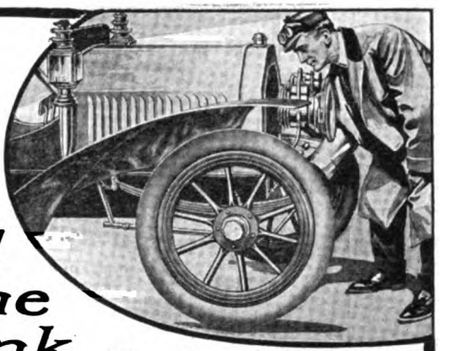
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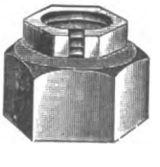
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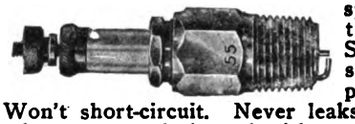
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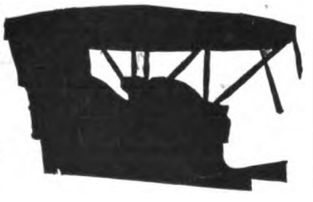
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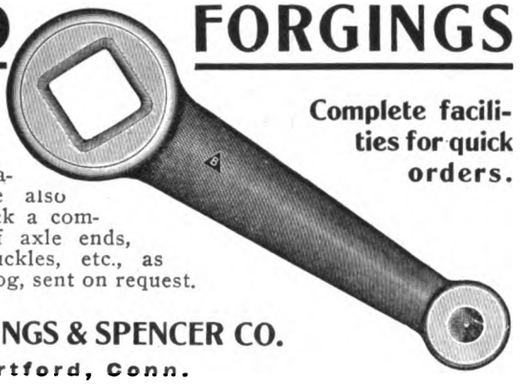
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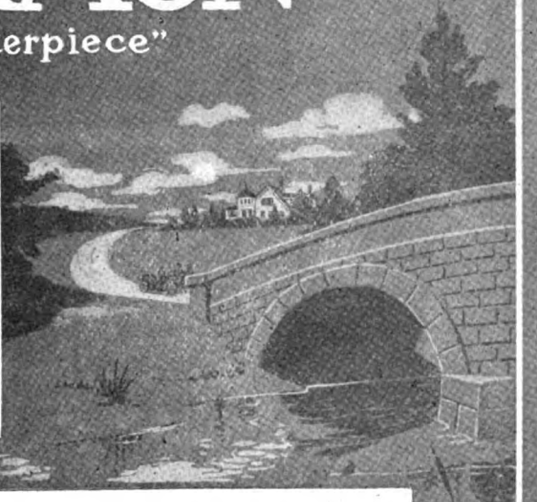
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A reading of the specifications will convince the experienced motorist that this "Thirty-two" equipment and Marmon construction considered, is the real bargain of the year.

Genuine Krupp and Chrome Nickel Steels used for important parts. Bosch magneto and battery—dual system. Three-point motor support. Straight line shaft drive. Rear axle and transmission in one unit. Marmon Oiling System. Large brakes. Hess-Bright ball bearings. Big tires (34x4 all around). Complete equipment.

Furnished as Touring Car, Roadster, Four-Passenger Suburban with removable rear seat, or Limousine Town Car.

We shall exhibit in New York only at Grand Central Palace Show, opening New Year's Eve.

The Marmon "Fifty"—A Superb Car

The fact that this car is a Marmon—one of the three or four really high-grade cars built in America—informs the experienced motorist as to its construction, ability, distinguished appearance and ease of motion.

In addition to this, a reading of the specifications will show that in hard, practical cash value, it is the superior of the most famous foreign cars or any other American car, at any price.

Marmon "Fifty" (with Seven-Passenger or Four-Passenger Body), $3750. Marmon "Forty-five" Roadster, $3500.

Nordyke & Marmon Co. (Estab. 1851) Indianapolis, Ind.

Standard Manufacturers A. M. C. M. A.



The Easiest Riding Car In The World

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AUTOMOBILE FACTS

Will You Buy Dreams or Experience?

The car, proved to be in the best moderate-priced automobile, is

THE MAXWELL

The greatest number of satisfied automobile users, now over 11,000,

THE MAXWELL

The greatest chain of automobile plants, New Castle with its ten acres of floor space—Tarrytown with its superb equipment—Pawtucket with its splendid facilities—forming the most important factor in the American automobile industry to-day, are devoted exclusively to manufacturing 9,000 per annum of

THE MAXWELL

Our output for the season of 1907-08 was over five million dollars—all represented by

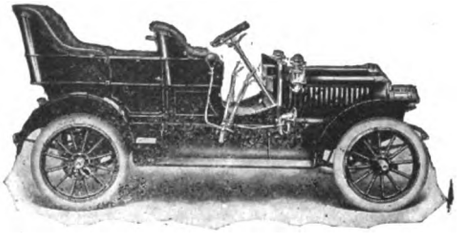
THE MAXWELL

For our production the coming season the public will pay over eight million dollars, a business represented entirely by the sale and satisfactory use of

THE MAXWELL

In our experience we have seen automobile manufacturers come and go. We are proud of our success. It means that good design and superior qualities have been the recognized possession of

THE MAXWELL



THE FIVE-BEARING-MOTOR CAR
Maxwell Model D A, 4-Cylinder, 24-28 H. P., $1,750, Equipped.

The Maxwell-Briscoe Motor Company experiment on themselves, not on the public. Mr. J. D. Maxwell, instead of copying a lot of hodge-podge ideas, has made MAXWELL cars with the closest possible regard to the requirements of the average user. Therefore MAXWELL cars of all types represent the foremost utility American automobiles.

Our two-cylinder cars crowd the highways of the country; our four-cylinder cars are deservedly the most popular moderate-priced cars made.

In all our four-cylinders we use five-bearing crank shafts, as against only two or three in other cars.

The bodies of all of our cars are made of metal, costing more than twice as much as wooden bodies.

We use the unit construction, that is, make the engine and transmission case in one casting, not bolted together, costing more than the usual construction, and many times more substantial.

We have found that it has paid to make the best moderate-priced cars in the market. Not to try to make cars cheaper than any one else, but to make them better, and to sell them at a price commensurate with a just profit and a large output.

Advance literature now ready for distribution, showing complete 1909 line

MAXWELL-BRISCOE MOTOR CO.

P. O. 106, Tarrytown, N. Y.

Factories:

Tarrytown, N. Y., New Castle, Ind., Pawtucket, R. I.

The Value of the AJAX 5,000 Mile Guarantee

is known and appreciated by every individual **AJAX** user. It also finds substantial recognition at the hands of the automobile manufacturer who knows better than any one how vital the tire problem is to the motorist.

No wonder, then, that careful buyers and conservative manufacturers like the **Maxwell-Briscoe Motor Comapny** give to the **AJAX** the largest tire order ever received by a single tire firm.

Incidentally they give to their customers the benefit of the **AJAX five-thousand mile guarantee,** which insures the user against tire worry and gives him a security that no other tire maker can afford.

MAXWELL-BRISCOE MOTOR CO.
MANUFACTURERS OF "Maxwell"

NO. 2146-T
THIS NUMBER MUST APPEAR ON INVOICE

TARRYTOWN, N. Y., 9/19, 1908.

Ajax-Grieb Rubber Co.,
57th St. & Broadway, N.Y.C.

PLEASE SHIP US WITHIN TO VIA

4000 Sets 28" x 3" Ajax Tires Complete.
1500 " 30" x 3" Ajax Tires Complete.
1000 " 30" x 3-1/2" Ajax Tires complete.
750 " 32" x 4" Ajax Tires complete.

Shipment to be made to our several factories, in accordance with instructions to be given later.

MAXWELL-BRISCOE MOTOR CO.,
A. R. Connelly
Purchasing Agt.

ACCEPTANCE OF THIS ORDER IMPLIES AN OBLIGATION TO FILL OUT AND RETURN FORM BELOW.

The World's Largest Tire Order

Naturally given to the **AJAX.** Every one of the 29,000 Tires is accompanied by our 5,000-mile Guarantee.

Would you insist upon incurring tire hazard when you can buy **AJAX** tires and **AJAX** tire insurance at the same price at which users of other tires buy tires alone, without any guarantee?

Think this over and write for a copy of our 5,000-Mile Guarantee, also for **"AJAX,"** a magazine published in the interest of makers, sellers and users of rubber tires and kindred products of the rubber industry.

Ajax-Grieb Rubber Co.

Factories: Trenton, New Jersey.

Branches

NEW YORK CITY—N. E. Cor. 57th Street and Broadway.
BOSTON—819a Boylston Street.
KANSAS CITY, MO.—1422 Grand Avenue.
DENVER, COLO.—1529 Cleveland Place.
SEATTLE—1102 Broadway.
SAN FRANCISCO—438 Market Street.
LOS ANGELES—1038 South Main Street.
PHILADELPHIA—316 North Broad Street.
DETROIT—743 Woodward Avenue.
CHICAGO—1418 Michigan Avenue.

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The Warner Instrument Co.
of Beloit, Wis.

Announce their Masterpiece—



The 1909 AUTO=METER

The illustration shows the form of the new instrument. The chaste simplicity and artistic beauty of the design is self-evident. It harmonizes perfectly with other dash equipment and gives tone to any car.

The Speed Recording mechanism is unchanged. It was perfection before. Improvement was impossible.

The Odometer is now of our own construction. Therefore, as simple, durable and dependable as the Auto-Meter itself. The figures are so large and distinct that they can be read from the seat.

The Season dial registers 100,000 miles. Other odometers register 10,000 miles only.

The Trip dial registers 1,000 miles. Other odometers register 100 miles only.

The Trip dial-set is simplified. A single turn of the button resets to zero.

Those who have used any kind of Speed Indicator will realize what these points mean to them.

The entire dial is illuminated by concealed electric bulb. The pressure of a button makes speed and distance plainly readable in the darkest night.

The Shaft Drive is now made simpler and stronger than ever before. We use special steel, heat treated, in its construction. This was really not required. We have seldom had shaft or other troubles not caused by carelessness or accident. We changed simply because modern methods had produced something better than we had used before.

The Auto-Meter is constructed throughout of the best materials procurable. It is made and put together by the same workmen who are engaged in making Chronometers and other expensive instruments of precision.

The tests and inspection of each instrument is so rigid that variations from absolute accuracy are only possible when there are variations in tire diameters. This amounts, on the average, to less than 100 feet to the mile.

For these reasons the Warner Auto-Meter has always been specified by those who can afford ***the best,*** and with whom anything short of absolute perfection and unfailing accuracy is of no use whatever.

The Warner Instrument Company

Factory and Main Offices: 311 Wheeler Avenue, BELOIT, WIS.

NEW YORK, 1902 Broadway
BOSTON, 925 Boylston St.
PHILADELPHIA, Cor. Broad & Race
PITTSBURG, 3432 Forbes St.
CLEVELAND, 2062 Euclid Ave.
BUFFALO, 722 Main St.
DETROIT, 239 Jefferson Ave.
CHICAGO, 1305 Michigan Ave.
INDIANAPOLIS, 330½ N. Illinois St.
ST. LOUIS, 3923 Olive St.
SAN FRANCISCO, 500 Golden Gate Ave.
LOS ANGELES, 1124 Main St.

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Overland

Model 31
Tourist
$1,400

Special Announcement

THE demand for an Overland 5-passenger touring car equipped with our well-known and exclusive floor-controlled planetary transmission having become so persistent, we have determined to add a car of this type to our line to list at $1,400. This model will be equipped with our 30 H. P. 4-cylinder motor, high tension magneto, headlight, etc. Early deliveries can be made on this model, which will be known as Model 31.

Write for fuller specifications, which will be gladly furnished

OVERLAND AUTOMOBILE CO., INDIANAPOLIS INDIANA



Mayo Radiators are as Unobtrusive as Good Form

¶ They don't "spout" or "slop over," and are thoroughly effective.

¶ Mayo Radiators are their own reason for their general use on really high-grade cars.

¶ Mayo Radiators are built first and built as well as the finest kind of artisans working with the best materials and under the most favorable conditions can build, and their cost is based on their worth.

¶ Mayo Radiators assure that whatever troubles a car may have, they are not due to the radiator.

¶ Mayo Radiators are not within the price limit of cheap cars. Equally true it is that they are within the quality limits of all good cars selling at any price.

¶ A Mayo Radiator axiom:
If the rest of the car is as good as the Mayo Radiator, it's all right.

¶ Mayo Radiators are made in a Quality Shop at New Haven, Connecticut.

MAYO RADIATOR COMPANY

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Franklin Model G Runabout

Why should a business or professional man buy any automobile that he cannot use every day in the year?

The Franklin Model G runabout is the highest type of automobile made. Like all Franklin automobiles it is built for what it has to do. It combines high power with strength and light weight. It has no water-cooling apparatus to carry, to freeze, to make trouble and expense. You can use Model G runabout every day in the year.

Model G runabout has a 4-cylinder, 18 H. P. long-stroke, air-cooled motor with fan; multiple disc-clutch, sliding gear transmission, shaft-drive, Bosch high-tension magneto. In quality it equals the largest and finest of Franklin touring cars.

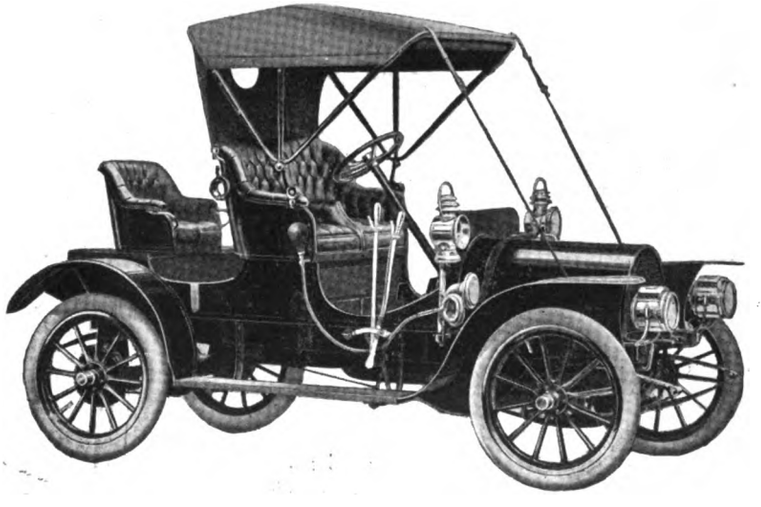
It stands up for every kind of runabout service. In looks there is nothing better for anybody.

While air-cooling is greatly superior to water-cooling for any motor car, its advantage is especially realized in the runabout, which nine times in ten is used principally for business. It must be left standing out in storms and freezing weather.

W. C. Deming, M. D., in a recent issue of the *Horseless Age*, says: "I am a strong advocate of the four-cylinder, shaft-driven car, with air-cooled motor. There are no disadvantages in air-cooled cars that I know of as compared with water-cooled motors. Air-cooling must be efficient or the makers of cars with such motors could not continue in business and prosper. These motors are more economical of gasoline and not less of oil. Then why pay for radiator, pump, pipes and water jackets, carry the weight of these and of the water, and have the trouble of non-freezing solutions in winter or suffer the penalty of frost-wrecked cars?" ,

The Doctor is right. Why have unnecessary trouble?

Model G Runabout, $1800, F.O.B. Syracuse
(Top extra)



MODELS

G—18 H. P. touring car, $1850. Runabout with hamper, $1750. With single or double rumble seat, $1800.

D—28 H. P. five-passenger touring car, $2800. Or runabout, with single or double rumble seat, $2700.

H—42 H. P. seven-passenger touring car, $3750. Or runabout with single or double rumble seat, $3600.

Broughams, Landaulets, Limousines, Town Cars.

All prices f. o. b. Syracuse, N. Y.

Write for the new 1909 catalogue de luxe.

H. H. FRANKLIN MFG. CO., Syracuse, N. Y.

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The "Whats" and the Facts

Here are the "Whats" that confront the average man who contemplates the purchase of a motor car:

What will a car do for me?

The Premier will go through water, mud or sand, up hill and down dale over all kinds of roads, day in and day out. Its winning records in Glidden tours and all the endurance and reliability runs it has entered prove that. And all Premier owners testify to it.

What must I pay for it?

The Premier models range in price from $2,500 for the "Thirty" to $3,500 for the six cylinder "Forty-five." You can buy cars for less—and get a great deal less. You can buys cars for more—and get not a penny more of value.

What will it cost to operate it?

The Premier holds the official record for economy.

What will the repair bills be?

The Premier, taken apart and examined after a strenuous test run of 12,189 miles in 100 consecutive days, was officially pronounced able to do it over again without repairs. The same answer is found in all its great endurance runs. And Premier owners will tell you that its upkeep is insignificant.

What will be the length of its life?

We can show you any number of Premiers built during our first year, that have gone over 50,000 miles and are doing good service to-day.

What will it be worth next year?

For your own use it will be worth as much next year as it is to-day. If you want to sell your car, you have a car in which there are no radical changes from year to year and you can offer a car of proven value, a car so well known that you need no argument.

Premier Motor Mfg. Co.
Indianapolis, Ind.

Standard Manufacturers A. M. C. M. A.

R. M. Owen & Co.
Distributors
East, North and Northwest

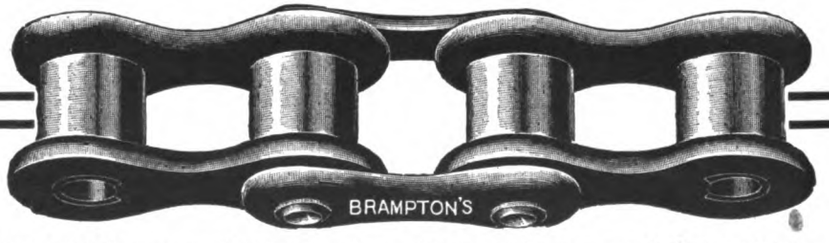
Will exhibit in New York only at Grand Central Palace Automobile Show, Opening New Year's Eve.

THE LARGEST AUTOMOBILE SUPPLY HOUSE IN AMERICA

Your Profit, Mr. Dealer

depends upon your sales. You must sell goods that are in demand and move rapidly, and give you a good profit. We would like to have you investigate

THE CELEBRATED BRAMPTON CHAIN



They are rapid sellers and bring many duplicate orders. Every customer a satisfied customer and a daily advertiser for you and the Brampton Chain. They are the strongest chain on the market. Made of self-hardening steel.

We have in stock all sizes to fit American and foreign cars.

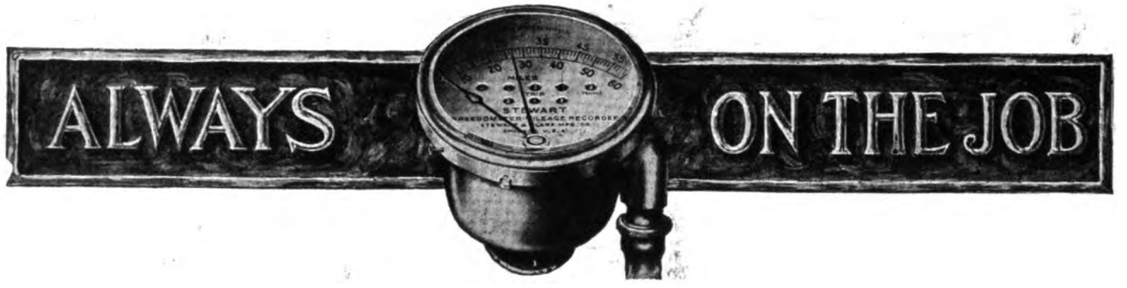
The price is the same as you pay for any other chain, in fact all automobile chains now on the market are same price to manufacturers, jobbers, dealers and users, and our prices are the same as quoted by chain manufacturers.

PRICE THE SAME. QUALITY? INVESTIGATE. Get the best at the same price. Agents wanted in unoccupied territory. Catalog mailed upon request; the largest of its kind ever published.

CHAS. E. MILLER, Manufacturer, Jobber, Exporter and Importer; **Main Office: 97-99-101 Reade Street, New York**

BRANCHES—54th St. and 8th Ave., New York; 202-204 Columbus Ave., Boston, Mass.; 318-320 N. Broad St., Philadelphia, Pa.; 227½-229 Jefferson Ave., Detroit; 1829 Euclid Ave., Cleveland, O.; 1392 Bedford Ave., Brooklyn, N. Y.; 824 Main St., Buffalo.

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Dealers Who Sell Stewart Speedometers Have a Cinch

As one big dealer says, if you sell Stewart Speedometers it means

No speedometer troubles. No customers constantly coming in with broken shafts. No returned speedometers. No dissatisfied customers. Five times the volume of business

and it's a heap easier to hand him a five-year guaranteed Stewart Speedometer, at a reasonable price, than to spend an hour trying to convince him that he should pay three times as much for some other make, not nearly so good, and if you did sell him feel that you had stung one of your good customers.

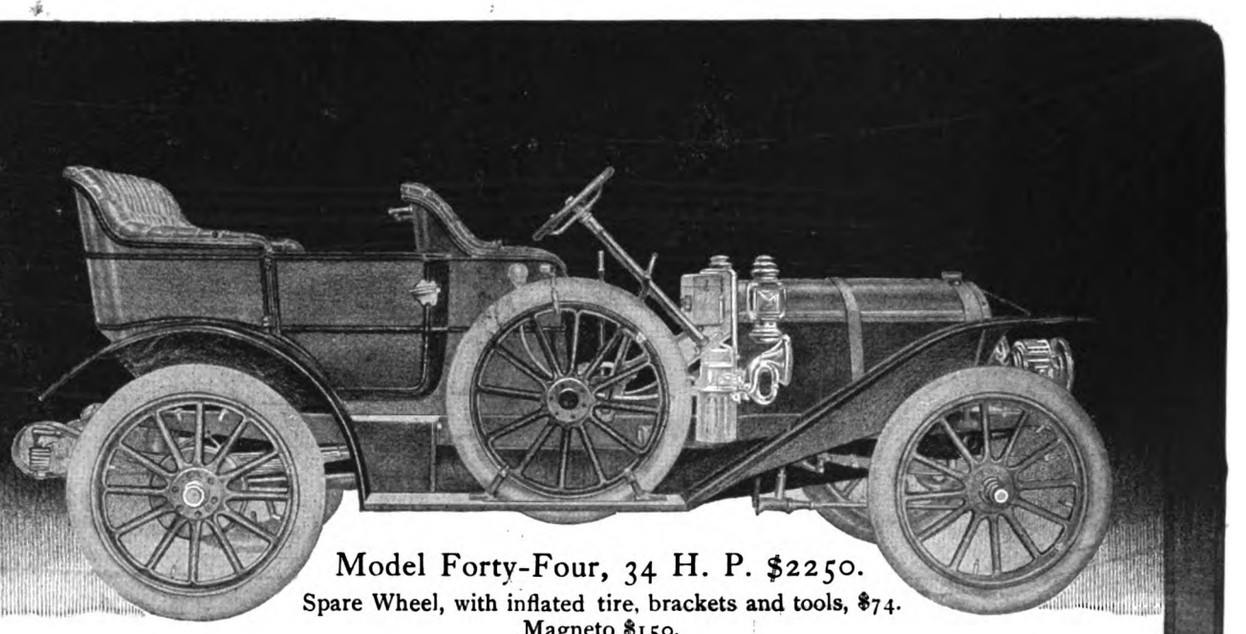
Me for the Stewart

Our new catalog describing new 1909 line is now ready

Stewart & Ciark Manufacturing Company

509 Diversey Boulevard, Chicago, U. S. A.

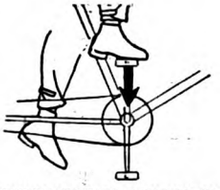
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Model Forty-Four, 34 H. P. $2250.
Spare Wheel, with inflated tire, brackets and tools, $74.
Magneto $150.

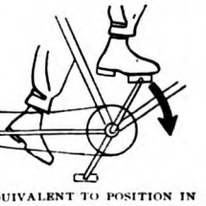
THE OFFSET CRANK SHAFT

Most automobiles develop sufficient power when they are traveling at a *high* speed. The greatest need is for power at *slow* engine speeds. Rambler Model Forty-Four can be operated smoothly and steadily at *three* miles an hour on *high* gear. This is because of the offset crank shaft.

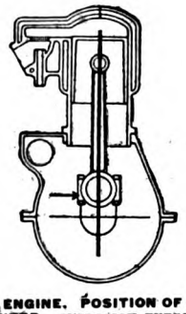


EQUIVALENT TO POSITION IN ORDINARY ENGINE OF PISTON AT EXPLOSION CENTER.

Rambler
The Car with the Offset Crank Shaft

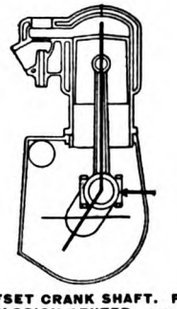


EQUIVALENT TO POSITION IN RAMBLER ENGINE OF PISTON AT EXPLOSION CENTER.



ORDINARY ENGINE. POSITION OF PISTON AT EXPLOSION CENTER. EXPLOSION EXERTS NO TURNING EFFORT TO CRANK SHAFT. THE DEAD CENTER WASTES ENERGY. SHOCK FALLS ON BEARINGS.

How the Offset Crank Shaft is an Advantage



RAMBLER OFFSET CRANK SHAFT. POSITION OF PISTON AT EXPLOSION CENTER. FULL POWER OF EXPLOSION EXERTS TURNING EFFORT TO CRANK SHAFT. DEAD CENTER ELIMINATED. NO ENERGY WASTED. NO SHOCK TO BEARINGS.

Seven passenger model, forty-five horse power with offset crank shaft, $2500. Other models, $1150 to $2500. Write for catalog describing in detail Rambler offset crank shaft, Spare Wheel, straight line drive and other exclusive features of the new Rambler models.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory, Kenosha, Wis.

Branches and Distributing Agencies:

Chicago, Milwaukee, Boston, New York, San Francisco. Representatives in all leading cities.

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, November 26, 1908. No. 9

OUTCOME OF TIRE CONFERENCE

American Motor Car Manufacturers Table Report—Chairman's Communication Brings Conspiracy Reply.

The situation growing out of the conferences of the tire manufacturing members of the Motor and Accessory Manufactuers, Inc., which had for its purpose the reduction of the list prices on tires appears to have caused some misunderstanding on the part of a number of those most concerned.

It will be recalled that at the now rather historic conference in Cleveland the chairman presented a revised tariff which he insisted be adopted, but which by a vote of 6 to 6 was not adopted, the meeting really coming to an end without substantial result. Despite the fact, the chairman appears to have been under the impression that conference committees which had been named by the Association of Licensed Automobile Manufacturers and the American Motor Car Manufacturers Association had been empowered to obligate the members of their respective organizations to abide by the action of the Cleveland meeting. To that end he forwarded a transcript of the minutes of the Cleveland meeting to the respective committees of the two outomobile manufacturers associations and called on them to instruct their agents to specify the tires the makers of which by their vote had inclined to the adoption of his schedule, which was supposed to represent the views of the A. L. A. M. and the A. M. C. M. A. The minutes showed just how each party to the Cleveland conference had voted and the use of them has left a train of bitterness.

What action was taken by the License Association has not been learned, but it just has become known that when their representatives rendered a report, the American Motor Car Manufacturers laid it on the table. It has become known also that the chairman of the latter association's committee wrote the chairman of the tire makers' conference that he (the tire chairman) was laboring under a misapprehension and that none could become a party to any procedure which so plainly suggested a conspiracy in restraint of trade. At last accounts, the matter rested there.

Mitchell to Operate Its First Branch.

A branch store and warehouse in Atlanta, Ga., has been decided upon by the Mitchell Motor Car Co., of Racine, Wis., where James M. Cram, of the home office will be in charge. The branch will be the distributing center for Georgia, North Carolina, South Carolina, Alabama, Louisiana and Florida, and will be the first established by the Mitchell company. Immediately following the Savannah automobile races. President William Mitchell Lewis and Sales Manager Gilson will visit Atlanta to select the location, following which they will visit New Orleans and Cuba.

Freight Rates Due for Big Boost.

Freight rates to California from the East are to be raised considerably on the first of the year, making an increase of from $25 to $40 each on big cars. From the New Eigland States the rate will be $8 per hundren pounds, and from the Middle States about $7 per hundred, as against the old rate of $6 per hundred. The dealers who will be affected by the raise are making the coming increase the basis for a vigorous campaign with prospective customers, urging them to buy at once to save freight costs.

Why Ford's Big Capitalization Increase.

In explanation of the Ford Motor Co.'s increase of capital from $100,000 to $2,000,000, the secretary of the company, James Couzens, says that the change is merely the transfer of $1,900,000 from the surplus to the capital stock. "We are rather proud of the record of the past five years," he continues. "We have been able to grow from comparative insignificance to a $2,000,000 concern, cash all paid up and no stock for sale."

APPROVES POPE REORGANIZATION

Court Overrules Objections and Authorizes Acceptance of $1,500,000 Offer—How New Company Will be Formed.

Despite the suspicions and opposition of Thomas H. O'Connor, the Jersey City holder of 100 shares of the Preferred stock, Vice-Chancellor Howell, sitting in the Chancery Court, Newark, N. J., on Thursday last, 19th inst., authorized the receivers of the Pope Mfg. Co., to accept the $1,500,000 offered for the Pope assets by the reorganization committee.

Steps already have been taken to secure the concurrence of the courts in Maryland, Massachusetts and Connecticut, in which latter state the reorganized company probably will be incorporated.

This favorable decision will permit the company quickly to terminate the receivership and to again stand on its own feet, as well as immediately to pay the creditors the fourth and final dividend of 25 per cent. The creditors thus will have received 100 cents on the dollar, and as the huge $22,500,000 capitalization will be reduced by the reorganization to $6,500,000, with $800,000 worth of 6 per cent. mortgage notes, the burden of the new company will be more in keeping with actual conditions.

Of the reduced capital, $4,000,000 will be common stock and $2,500,000 preferred stock. Holders of the outstanding preferred stock in the old company, amounting to $2,391,000, are to receive 75 per cent. of the par value of the old stock in new preferred stock and 83 per cent. of the par value of the old stock in new common stock. To effect this will require the exchange of $1,793,250 of the new preferred stock and $1,984,530 of the new common stock. Holders of the second preferred stock in the old company get 20 per cent. of the value of the old second preferred stock in new common stock. To redeem the $8,625,100 worth of this old second preferred that is outstand-

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ing, will require $1,725,020 of the new common stock. The common stock in the old company will have no participating value in the new.

The owners of first and second preferred stock in the old company have deposited their stock with the reorganization committee, which will buy in the old company's assets and properties after the receivers have paid off all the outstanding indebtedness, when the new company will be formed and the new stock issued. For its services in financing the transaction and in agreeing to buy up the $800,000 worth of 6 per cent. mortgage notes which the new company is to issue, the underwriters are to take $500,000 worth of the preferred stock in the new company, and $90,450 in new common stock.

The distribution of the securities of the new company upon its starting business therefore will be as follows:

Syndicate for $800,000 cash	$500,000	$90,450
First preferred stock..	1,793,250	1,984,530
Second preferred stock.		1,725,020
Balance in treasury ...	206,750	200,000
Total	$2,500,000	$4,000,000

For the $800,000 in cash supplied by the syndicate there is the corresponding issue of $800,000 in notes, which must be added to obtain the total of security liabilities.

The preferred stock will be entitled to cumulative dividends at 6 per cent. from August 1, 1908, and no dividends on the common stock will be made until all back dividends on the preferred are paid up. Similarly no dividends on any of the stock will be paid until the mortgage notes are paid.

In ruling against the objecting O'Connor and in favor of the receivers, Vice-Chancellor Howell after a brief resume of antecedent circumstances, proceeded to point out the risks involved in the carrying on of such a business from which he drew the conclusion that investors would probably not consider any proposition looking to the taking the plants as a permanent investment.

These circumstances, the vice-chancellor holds, limit the persons who would be likely to entertain the idea of purchasing the property to an extremely small number, and go almost to the extent of demonstrating that the present owners of the properties, the stockholders, are not only the natural and logical bidders, but must be almost the only bidders.

The vice-chancellor adverts also to the fact that the court is always anxious to avoid having any business operated under its control longer than is absolutely necessary to pay the creditors and preserve the property from destruction, and always looks with favor upon business arrangements whose object is to relieve the court from that responsibility. The vice-chancellor goes on to say:

"I think it appears by the testimony that the property which the reorganization committee desires to purchase is worth, as it stands, as a going business, as between a willing purchaser and a willing vendor, somewhat more than the sum offered by the committee, but it is apparent that the value of the property is not sufficient to pay the whole of the first preferred stock, which I understand to be preferred to the other issues, both as to capital and to dividends, and that for the purposes of this motion we may disregard the second preferred stock and the common stock. The committee reorganizations represent all the outstanding first preferred stock except 245 shares, 100 shares of which belong to the objector.

"The discrepancy may be affected by the business considerations above stated, by the financial conditions of the country, by the financial conditions of the automobile and bicycle trade, or by the dozen other matters which enter into a large business.

"Again, the total outstanding first preferred stock of the Pope Mfg. Co. is $2,345,500. The objector's holdings amount to 100 shares of the actual par value of $10,000. While the holder of a single share has the same legal right to object to this sale that he would have if he held a great majority of the stock, yet he does not appeal to the court with as great favor, for the reason that the very great majority of his fellow-stockholders have decided upon the proposition with a judgment very different from his. And particularly is this true in this case in which the objector does not go to the trouble of giving the court any information concerning the facts from his own standpoint.

"The case must, therefore, rest on the petition and testimony adduced on behalf of the receivers. I will advise an order that the receivers be permitted to accept the offer."

Iowa Concern to Specialize Farm Vehicles.

The Bertschy Motor Co., of Council Bluffs, Ia., has been organized to make combination traction engines and pleasure cars, and also freight trucks for city use, with automobile fire engines as a side line. The leader will be a machine for farm use, which after hauling gang plows in the fields or loads of grain to market on week days, can on Sunday be converted to a vehicle to carry the family to church. The company also plans to a rebuilding and repairing business. It is incorporated nuder Nevada laws, and is capitalized at $50,000, of which $20,000 is said to have been subscribed for already, chiefly by members of the Council Bluffs Commercial Club. The officers chosen are: T. R. Children, president; A. J. P. Bertschy, vice-president and general manager; George S. Wright, secretary; and Ernest E. Hart, treasurer.

Buyer Found for Eisenhuth Plant.

Bond holders of the defunct Eisenhuth Horseless Vehicle Co., of Middletown, Conn., have accepted a proposition to sell to the Silent Typewriter Co., of New York City, at 75 per cent. of the par value of their holdings. The total of outstanding bonds is $110,000, and at the meeting in Middletown on the 20th inst., 22 of the bond holders, representing $85,000, signed the agreement, with the provision that all of the owners will sell at the same price. The purchasing company is given until next March to take up its option.

Injunction Saves a Western Factory.

An injunction against dismantling the Owen Thomas Motor Co.'s plant at Janesville, Wis., was obtained by Owen Thomas recently in bare time to prevent the buildings being torn down by workmen employed by the C. & N. W. railroad. The railroad company had leased the building to the Thomas company for a plant, for a year, but as the latter concern did not appear very active, the railway employes tearing down the other buildings in the yard were directed to include the Thomas plant.

To Handle Federal Tires in New England.

William P. Cronin, formerly with the Diamond Rubber Co., has become president of the Standard Tire & Rubber Co., of Boston, Mass., with offices and salesrooms at 102 Portland street. James S. Waddell, long in the rubber business, assumes the duties of treasurer. The concern will handle Federal tires, and will shortly open a branch in the Boston up-town automobile district.

Three New Taxicab Companies Organized.

Three new taximeter cab companies entered the lists last week and despite the asserted legal claim of a New York company to the exclusive use of the word "taxicab," each of the new comers includes that term in its title. They are the Citizens Taxicab Co., Cleveland, Ohio; the Reading Taxicab Co., Reading, Pa., and the Lackawanna Automobile & Taxicab Co., Scranton, Pa.

Speed Changing Pulley Moves to Anderson.

The Speed Changing Pulley Co., formerly of Indianapolis, has taken possession of its new factory at Anderson, Ind. The buildings have 60,000 square feet of floor space, and will be chiefly devoted to the manufacture of the chassis for the Studebaker motor buggy.

Clifton Sails for European Visit.

Charles Clifton, of the George N. Pierce Co., and president of the Association of Licensed Automobile Manufacturers, this week sailed for Europe. He will be absent about one month, and will, of course, visit the Paris show.

Typhoid Lays Hold of Wetzel.

Thomas J. Wetzel, the well known New York sales agent, is seriously ill with typhoid fever. On Tuesday last he was removed to a private hospital and was doing as well as could be expected.

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IN THE RETAIL WORLD.

The Monarch Motor Car Co., has opened a branch at 24-26 Eighth street, N.. Minneapolis, Minn. J. H. Kersten is in charge.

The Lewiston Automobile Co., of Lewiston, Mont., is building a large stone garage. The company plans to handle the Franklin.

West & Vaiel, of Springfield, Ill., have opened a garage next their electric light plant. It will have a fully equipped repair department.

H. Perrin & Son, carriage dealers in Mankato, Minn., have embarked in the automobile business. They will handle the Maxwell.

E. D. Carlough, of Paterson, N. J., has moved to his new building at 175 Van Houten street. It comprises a show room and repair shop for Franklin cars.

The Klafferthere Garage, in Chihuahua, Mexico, was destroyed by fire on the 10th inst. The total loss is close to $750,000, including 22 cars belonging to patrons.

Beloit, Wis., is to have another automobile agency. It will be known as C. Mattison & Son, the senior member being the owner of another established local business.

Detroit's already large agency list has had another addition in the C. B. Fear Automobile Co. The concern has taken a store at 844 Woodward avenue to handle the Gyroscope.

Urling & Co., of Pittsburg, Pa., are removing from 939 North Wegley avenue to 6112 Broad street. In addition to handling the Corbin, the firm will manufacture wind shields.

John Hoopes, of Westchester, Pa., has sold his business to Harry J. Walter. The garage and repair shop are being moved to the Mercer building on West Miner street.

W. L. Tedford, formerly in the commission business, has sold out and will start an automobile salesroom and garage in Little Rock, Ark. He is planning a two-story brick building.

Cowan Rogers has leased the brick garage which is being built at Gay street and main avenue, in Knoxville, Tenn. The building will be ready for occupancy on the first of the year.

The Franklin Automobile Co., of Boston, Mass., has removed its repair and garage departments from 61 Wareham street to 31 Irvington street. The change gives a large increase in space.

The Standard Motor Co., 616-618 North Broad street. is the latest addition to Philadelphia's motor colony. William P. David, formerly a member of the Kelsey Motor Car Co., is the proprietor.

The Eagle Automobile Co., of Avondale, near Cincinnati, O., is building a garage at 3139 Reading road. The structure will be of concrete blocks and the foundations will be strong enough for six stories if they are required.

S. G. Chapman has resigned as president and general manager of the Consolidated Motor Car Co., of San Francisco, Cal., agents for Pope and Franklin cars. He is succeeded by Harry A. Weihe.

All the property and effects of the bankrupt Charleston Motor Co., of Charleston, S. C., were sold at auction on the 30th ult. The trustee in bankruptcy, Walter C. Finger, is preparing his final report.

James F. Patton, for five years superintendent of the F. B. Stearns factory in Cleveland, O., has started in business for himself. He has opened an automobile repair shop at 4509 Euclid avenue.

The Weed Garage, 233 Ontario street, Toledo. O., has been sold to August B. Uhl, who has been its superintendent for two years. It will be conducted under the name of The Standard Garage hereafter.

Robert R. Ashwell, of Hartford, Conn., has opened his new garage at 347-349 Trumbull street. It contains 31,000 square feet of floor space and accommodates 250 cars. The show rooms feature the Franklin.

The Sears-Nattinger Automobile Co., of Des Moines, Ia., has changed its name to the Sears Automobile Co. The change is due to the death of Nattinger, who was killed in an automobile accident recently.

Quint Bradshaw and Henry Conn have leased the lower room of the Odd Fellows building on Depot street, La Harpe, Ill., for an automobile salesroom and garage. Adequate repairing facilities are being installed.

Gotfredson Bros., well known merchants of Green Bay, Wis., have decided to embark in the automobile business. A building on Jefferson street, at the corner of Main street, has been selected for their salesroom and garage.

A new agency is being organized in Waterbury, Conn., to handle Pope and E-M-F. cars. Its backers include Charles S. Woodward, Ira F. Bachelder and Henry F. Stackman, prominent real estate men, with offices at 21 East Main street.

The Kansas Auto & Supply Co., 526 Quincy street, Topeka, Kan., has been sold by its proprietor, W. E. Mallory, to A. C. Longren and Claus J. Carlson. Under the new ownership the concern will be known as the Kansas Motor Car Co.

C. W. Lindsay and H. A. Wetmore have formed a partnership for the sale of Thomas cars in Sioux City, Ia., where they will establish a garage. Their territory includes western Iowa, eastern Nebraska and southern Minnesota and South Dakota.

Eddie Bald, once famous in bicycling and subsequently as an automobile race driver, has resigned as sales manager for the Crescent Automobile Co., of Pittsburg, Pa. He has taken the sales management of the Mutual Motor Car Co., of the same city.

Frederick F. Goodman, Inc., automobile garage at 51-55 West Ninety-third street, New York City, has assigned. A petition in bankruptcy has also been filed against the concern. Judge Hough appointed Hamilton Holt as receiver. The assets are estimated at $5,000.

The Auto Livery Co. has been organized in New Orleans, La., to do a general automobile business. The concern is backed by Ginder Abbott and Palmer Abbott, who have had considerable previous experience locally, together with E. J. Hewling and Joseph Woodward.

George Tebeau, baseball magnate and owner of the Kansas City team, has opened an automobile establishment in Kansas City, Mo. It is located at 1716 Grand avenue and has the agency for the Stearns. A large garage is being added, which will be ready by the first of the year.

The Haynes Automobile Co., of Minneapolis, Minn., is to resume business, carrying the agency for three well known cars in a large northwest territory. The company sold out a year ago, but has assumed its old name and will be under the ownership of Harvey S. Haynes, as before.

In Philadelphia the Maxwell-Briscoe Motor Co. has leased the Jeffery building, 207-209 North Broad street. The building will house both the wholesale distribution organization and the local agency, which latter will be called the Longstreth Motor Car Co., instead of the Kelsey Motor Car Co., as formerly.

Wichita, Kan., is to have its seventh automobile agency in the Star Automobile Co., which has been formed by Hugh E. Roberts, E. N. McGregor and A. C. Houston. The company, which is erecting a $16,000 building, will distribute the Overland in several states. J. J. Sprague has been appointed manager.

The interests of A. E. Howe in the Howe Motor Car Co., 51-53 Bank street, Newark, N. J., have been purchased by M. F. O'Neill. While the present location will be retained, the name of the concern will be canged to the O'Neill Motor Car Co. Howe will devote himself exclusively to his automobile business in Paterson, N. J.

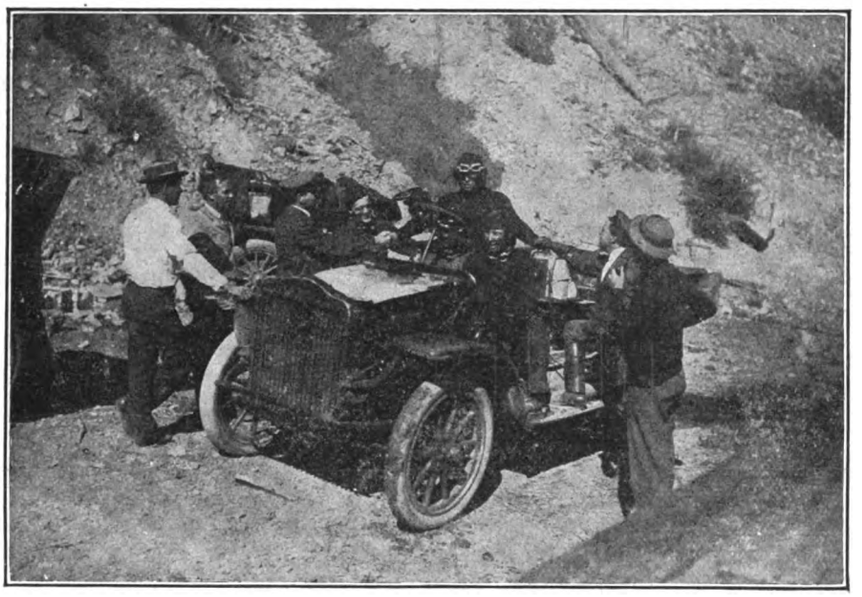
A branch of the Olds is being opened in Louisville, Ky. The local sales will be in charge of Henry C. Colgan, while Frank Glenn, Jr., will be general manager for the territory, including Kentucky, Tennessee, Alabama and Arkansas. A Lexington (Ky.) agency has been placed with Archie Hamilton, who has located next the Phoenix hotel.

To handle Jewel cars in New York City a new company has been formed, which will be called the Jewel Motor Car Co. of New York. A location has been taken at 1662 Broadway where the full line of Jewel models, made by the Forest City Motor Car Co., of Massillon, O., will be shown. J. P. Stoltz, of 420 West Twenty-third street, is the proprietor.

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WHITE WINS

Los Angeles to Phoenix Road Race



A brilliant victory was scored by the White Steamer in the recent stock-car race through the mountains and over the desert from Los Angeles, California, to Phoenix, Arizona. Once again the White demonstrated that in a stock-car competition and over roads such as exist in most parts of the country it is faster than any other type of machine. Such a contest as the Los Angeles-Phoenix race is far more significant than a race between specially built cars over specially selected and carefully prepared highways. This latest White victory indicates to the purchaser just what kind of service he may expect from the type of car which he can buy and over roads such as he will have to cover.

The White is the fastest car on give-and-take roads, not because it has the highest-powered engine, but because it delivers at the rear wheels a larger percentage of the power of the engine than any other type. Furthermore, that power is available under all conditions, whether running fast or slow, and no time is lost in shifting gears or in waiting for the engine to "pick up speed." In other words, under ordinary road conditions, the flexibility of the White engine will do what great power in other types of engines cannot do.

Write for circular describing the 1909 models.

THE WHITE COMPANY

CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.

PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.

SAN FRANCISCO, Market St. at Van Ness Ave.
ATLANTA, 120-122 Marietta St.

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The Standardization of Control.

Frequent observation has been made of the nonchalant way in which many designers arrange the accommodation for the driver of the car without due deference to his bodily comfort or to the safety which is supposed to lie in the facility with which he is able to operate the machine. The general crudity of the arrangements for controlling the vehicle is disappearing with time and experience, to be sure, but it is manifest even yet to a degree which is far from comforting. Just why it should be necessary to arrange gear levers so short as to require the driver to lean far from his seat in effecting some of the changes, for instance, or why the pedal foot plates should be elevated so far that the heel of the operator must be kept off the foot board at all times when the toe is resting on the plate, is difficult to understand. The inconvenience which is manifest to an astonishing degree is all the more to be wondered at since the subject already has attracted so much attention, and has been so successfully wrought out in a large number of cases.

A point of noteworthy importance in this connection is that the different methods of control prevailing on various cars are tremendously confusing to the operator who is called upon to change from one to another. This objection might not be held valid were it not that many owners possess two or more machines so widely differing in methods of control that to change repeatedly from one to another may constitute a source of real danger. Furthermore, were there any singular merit in the many systems which differ only in smaller details, there would be less objection to the variety. As it is, little aside from the individual taste of the designer appears to excuse many points of difference. Certainly if absolute standardization were welcome anywhere about the machine, it would be in the vicinity of the driver's seat.

Efforts at standardization in this particular thus far have been confined to the size of the steering wheel and its position with regard to the seat, while the height of the seat also has been brought down to narrow limits. The absolute position of the levers and pedals however, the length of throw, and amount of resistance to movement, still remain at the discretion of the builder. Therein lie considerable differences which, to the skilled and cautious driver are of small account, but which to the unskilled driver, particularly if compelled to assume the control of an unfamiliar vehicle on short notice constitute ground for considerable embarrassment, if not actual peril. Generally speaking there would be little to sacrifice if all manufacturers were to agree upon a standardized control, and much to gain. The trend which is guided by imitation of successful achievements leads in this direction sometimes, but frequently is limited rather to appearance and mechanical detail than to the element of the driver's comfort. The subject is an easy one to discuss and as it depends upon no complex or befogging theories, should prove an easy movement to encourage successfully.

While the establishment of the automobile has been accomplished speedily in the appreciation of the public and its utility has been granted open and gratifying recognition, it is evident that its real position remains to be defined properly. This is particularly evdent in the framing of legislative enactments, though the spirit there shown is probably but an index of a feeling which is current pretty generally. Automobile laws are framed for the restriction of automobiles—not of automobilists; accidents are ascribed to the cars, not to their drivers; even where credit is given for a remarkable or unusual performance, it is to the machine rather than to the human agency which guides it. When the definition of the motor vehicle as a purely inanimate and passive utensile in the hands of the operator is properly fixed, it may become a simpler matter to adjust questions pertaining to its use by the public and to eliminate the abuses which do so much harm to the cause.

Private owners who are inclined to rebel at the amount of expense involved in the pursuit of motoring should be taught the judicious treatment of the tire problem. Tire upkeep is, as it always has been, one of the most important items in the grand total of car maintenance. That it is usually much higher than really is necessary, however, is almost a foregone conclusion. If the amateur driver and mechanic could only be taught to keep his tires inflated to the proper pressure at all times, and to have recourse to vulcanization of all small cuts and tears as soon as they appear, there would be far less complaint of the short life of shoes and tubes, which after all, are very little to blame for most tire troubles.

It is crystalizing an expression of contumely to perpetuate the term "toy tonneau." The motor car is frequently referred to as a plaything of the rich, but only in derision, and to endorse the sentiment of its inutility is not alone unseemly, but belittling to the machine. "Baby tonneaus" are bad enough in all conscience from the point of view of discomfort and the danger of being cast out bodily at the first sharp turn in the road. But to label them thus with their shortcomings is to court the inevitable end of a passing fad.

When a large, old and long respected company, such as the Pope Mfg. Co., is able to lift a heavy burden and to wholesomely emerge from serious trouble, the industry with which it is identified and to which it has been a credit scarcely will withhold felicitations. That the company paid 100 cents on the dollar will add to the sincerity of the felicitations.

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THE WEEK'S INCORPORATIONS.

New York City, N. Y.—General Taxameter Co., under New York laws. Increase of capital from $5,000 to $320,000.

Cleveland, O.—Wright Auto Horn Co., under Ohio laws, with $35,000 capital. Corporators—C. M. Hartley and others.

Auburn, Me.—Darling Automobile Co., under Maine laws, with $10,000 capital. Corporators—G. R. Hunnewell, president; V. S. Darling, treasurer.

Chicago, Ill.—Standard Automobile Station, under Illinois laws, with $2,500 capital. Corporators—C. S. Everett, Joseph Seiler and L. G. Roach.

Chicago, Ill.—Woods Electric Garage, under Illinois laws, with $2,500 capital. Corporators—A. L. Schwartz, George H. Foster and John F. Rosen.

Waterloo, Ia.—Moore Auto Co., under Iowa laws, with $10,000 capital. Corporators—D. J. Moore, president; William Galloway, secretary and treasurer.

Sandy Hill, N. Y.—Adirondack Motor Car Co., The, under New York laws, with $10,000 capital. Corporators—M. O. Kasson, George N. Ney and G. H. Ingalsbe.

New York City, N. Y.—Ralph K. Mulford Co., under New York laws, with $1,000 capital. Corporators—Howard O. Lente, Ralph K. Mulford and Michael J. Driscoll.

Chicago, Ill.—Kissel Motor Co., under Illinois laws, with $10,000 capital; to deal in automobiles. Corporators—H. Darnstetter, W. A. Johnston and E. P. Hornack.

Minneapolis, Minn.—Mich Automobile Co., under Minnesota laws, with $10,000 capital. Corporators—William M. Wright, Florence Wright, Harry J. Mich, and Jean Mich.

Madison, Wis.—Madison Automobile Co., under Minnesota laws, with $10,000 capital. Corporators—Norwood J. Hitz, Abraham J. G. Forry, Carlisle Strader and Thomas B. McGregor.

Chicago, Ill.—International Automobile Co., under Illinois laws, with $20,000 capital; to manufacture and deal in automobiles. Corporators—E. C. Haynes, C. E. Hall and J. W. McDaniel.

Chicago, Ill.—Great Central Electric Co., under Illinois laws, with $25,000 capital; to manufacture and deal in automobiles. Corporators—John S. Crowell, J. E. Haschke and F. L. Harford.

Loganspirt, Ind.—Bendix Automobile Co., under Indiana laws, with $200,000 capital. Corporators—Vincent Bendix, H. Clay Calhoun, Frederick Patterson, W. S. Resor and J. H. Behrens.

Scranton, Pa.—Lackwanna Automobile and Taxicab Co., under Pennsylvania laws, with $10,000 capital. Corporators—William Conrad, Edward Conrad, Otto R. Conrad and Charles C. Conrad.

Cambridge, Mass.—Norris Motor Car Co., under Massachusetts laws, with $50,000 capital; to manufacture and deal in automobiles and accessories. Corporators—Wesley S. Young, president, et al.

Detroit, Mich.—Herreshoff Motor Co., under Michigan laws, with $90,000 capital. Corporators—Charles M. Herreshoff, Louis Mendelsohn and Carl Reese, of Detroit; James A. Marr, Bridgeport, Conn.

Pittsburg, Pa.—Athletic & Auto Club of Allegheny County, State of Pennsylvania, The, under Delaware laws, with $25,000 capital. Corporators—G. S. Merriman, J. M. Ward, W. W. Jarvis, Pittsburg, Pa.

New Haven, Conn.—Baker Mfg. Co., under Connecticut laws, with $5,000 capital, $1,000 paid in; to manufacture spark plugs and accessories. Corporators—Otto L. Hemming, Gustave F. Hemming and Max L. Baker.

Buffalo, N. Y.—E. E. Denniston Co., under New York laws, with $30,000 capital; automobile accessories. Corporators—William G. Denniston, Worcester, Mass.; Edward E. Denniston and Clyde R. Sikes, 184 West Mohawk street, Buffalo.

Elmira, N. Y.—Thomas Resilient Wheel Co., under New York laws, with $25,000 capital; to manufacture wheels and other appliances. Corporators—G. H. Thomas, G. A. Davies, C. R. Murphy, C. F. Thompson, T. W. Cleveland, Elmira, N. Y.

New Haven, Conn.—Wheeler & Wuestefeld Co., The, under Connecticut laws, with $4,500 capital; to deal in automobiles. Corporators—George B. Wuestefeld and Dorothea Wuestefeld, of New Haven; Cyrus E. Wheeler, of Hartford, Conn.

New York City, N. Y.—Post Motor Co., under New York laws, with $30,000 capital. Corporators—George W. Post, Jr., Bronxville, Westchester county; John N. Blair, 27 Washington square, north; Louis F. Staar, 471 Ocean avenue, Brooklyn.

New York City, N. Y.—Greater New York & Suburban Transportation Co., under New York laws, with $25,000 capital; to build taximeter motor vehicles, engines, etc. Corporators—H. Lauterbach, C. E. Volz, Brooklyn, N. Y.; C. A. Conner, New York City, N. Y.

East Orange, N. J.—Brick Church Automobile Co., The, under New Jersey laws, with $100,000 capital; to manufacture and repair automobiles and motorcycles and conduct garage. Corporators—L. Burr Manning, John B. Todd and Melvin O. C. Hull.

New York City, N. Y.—Aero Tire and Supply Co., under New York laws, with $1,500 capital. Corporators—Michael O'Connor, 738 Seventh avenue; Lothair I. Siegel, 426 Central Park West, New York City, N. Y.; William R. Coleman, 147 Pierrepont street, Brooklyn, N. Y.

New York City, N. Y.—Cameron Motor Co., under New York laws, with $150,000 capital; to manufacture motors, engines, cars carriages, vehicles, etc. Corporators—E. D. Alexander, New Brighton, N. Y.; R. R. Logan, New York City, N. Y.; F. Hildebrandt, Tompkinsville, N. Y.

Council Bluffs, Ia.—Bertschy Motor Co., The, under Nevada laws, with $50,000 capital, $20,000 paid in; to manufacture combination traction engines and pleasure cars. Officers—T. R. Children, president; A. J. P. Bertschy, vice-president, and general manager; George S. Wright, secretary and Ernest E. Hart, treasurer.

COMING EVENTS

November 26, Savannah, Ga.—Automobile Club of America's 400 miles race.

November 26 and 29, Bakersfield, Cal.—Track meets.

November 26, Los Angeles, Cal.—Automobile Dealers of Southern California annual hill climb.

November 26, Denver, Col.—Colorado Industrial Exposition Association's race meet. Overland Park track.

November 28, Providence, R. I.—Rhode Island Automobile Club's hill climbing contest, "Dolly Cole" Hill.

December 5, Long Island Motor Parkway—Speed trials against time, auspices of the Long Island Motor Parkway, Inc.

December 12, Denver, Col.—Denver Motor Club's hill climbing contest, Lookout Mountain.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 1-2—Quaker City Motor Club's two days endurance run, Philadelphia to Wilkes Barre, Pa., and return.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show, Madison Square Garden.

January 23-30, Philadelphia, Pa.—Philadelphia Automobile Trade Association's annual show.

January 27-February 3, Philadelphia, Pa.—Automobile Trade Association's eighth annual show, Second Regiment armory.

February 6-15. Chicago. Ill.—National Association of Automobile Manufacturers' Show, Coliseum and First Regiment Armory.

February 15, Detroit, Mich.—Detroit Automobile Dealers Association's show, Wayne Pavilion.

February 22, Ceveland, O.—Cleveland Automobile Dealers Company's show, Central Armory.

February 27-March 3, Hartford, Conn.—Automobile Dealers' Association show.

March 27-April 3, Pittsburg, Pa.—Automobile Dealers Association's show, Duquesne Garden.

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OLYMPIA UNVEILS NEW MODELS

London's Great Show Anticipates Revelations of the Paris Salon—Preponderance of Light Powered Cars.

Olympia, London's first and only orthodox show, opened its doors on Friday, 13th inst., and closed on Saturday last. As the first show of general significance this fall, and moreover, being sufficiently near to the great Continental centers of automobile manufacture to catch the drift of the times, it attracted more attention in the industry than the exhibitors at the later Paris Salon will admit that it merited. In fact as an excuse for the unveiling of several of the small cars which just now are occupying the attention of many of the makers, both British and Continental, it furnished an authentic endorsement to the current impression that the eyes of the foreign industry are pretty largely turned toward the machine which is easy to build and sell in considerable numbers rather than toward its former favorites of more elaborate construction and higher price.

In the various exhibits, one feature hitherto of great prominence was lacking. Racing cars were barred—out of deference to the wishes of His Majesty, the King, it was said—and as the prohibition not alone eliminated the immense racing cars built for the big foreign contests, but "all cars designed for competitive purposes," the character of the show was somewhat unusual. One hundred and nine makers and agents staged cars of one type or another, and though racing machines were barred, the effect of the past racing season was manifest not a little in the details of the numerous "four-inch" cars, the engines of which were designed in accordance with the conditions governing the Isle of Man trials of last summer. In this connection also, the growing use of the long stroke motor—bred directly of racing definitions—was very marked. This was most evident in the case of the light cars of two and four cylinders, corresponding in price and other specifications to the moderate priced cars which are coming into so great prominence on this side of the Atlantic. Other "features" of the show included several new types of motor, several new six-cylinder models, the "elimination of the gearbox" in at least one case, increases in the number of shaft driven cars—and the usual surfeit of "detailed improvement."

In the staging of the show, no definite plan of decoration on a uniform scale was adopted, though the subject has been broached more than once and gravely discussed. The conservative and hit-or-miss method of permitting each exhibitor to fix up his own stand according to the extent of his fancy and pocket book resulted in a scene familiar to the show goer of several years ago in this country or to the frequenter of the French Salons. Being out of the atmosphere of Parisian extravagance, however, it lacked both the brilliancy and charm of the Continental shows.

Over 80 of the cars on view were exhibited as new models. Of these, three—the White, Cadillac and Buick—were of American origin. Others which attracted particular attention were the new Daimler models—five of the six types having the Silent Knight engine—the 38 horsepower Minerva, similarly equipped; the new Napier models, of two, four and six cylinders; and the "Two-Stroke," wherein a rather novel form of two-cycle motor is placed in an inclined position and with its air-cooled cylinder head and water-jacketed cylinders appears to embody even more novelty than in all probability it is entitled to. Its form certainly is unique.

Considerable attention was attracted by the latest form of Sheffield-Simplex—a "car without a gear box," just brought out. As its name implies, it is designed for continuous service on the direct drive. De-



GENERAL VIEW OF THE OLYMPIA SHOW IN LONDON

spite the absence of the gearset, however, what might be considered by carping critics as a practical equivalent of that device is contained in a small adjunct to the transmission which contains a low speed forward gear and a reverse. The car is of the six-cylinder type, having a motor of 4½ inches "square" cylinder measurements and has a driving ratio of 3.1 to 1 on the direct connection. The reverse and low speed arrangements give a ratio of 6.15 to 1. It is claimed that the elimination of the gearbox—so-called—results in a reduction of the number of transmission parts by no less than 150.

Of the small cars, quite the leading feature from the point of view of tendencies in the industry, several proved to be forecasts of what the later Salon holds in store. Of these were the new 10 horsepower Mors, the 15 horse Mercedes, 10 Panhard, 12

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Hotchkiss, 10 horse De Dion, 10 horse Delage, and 10 horse Delaunay-Belleville. England's quota in this class included the new Napier, modestly rated at 15 horsepower, and boasting a worm drive among other interesting points; the Austin of the same power, and the 12 horse Talbot. Two cylinder models, suitable for either runabout or taximeter service were shown by the makers of the Delaunay-Belleville, Renault, Darracq, Charron and Napier cars.

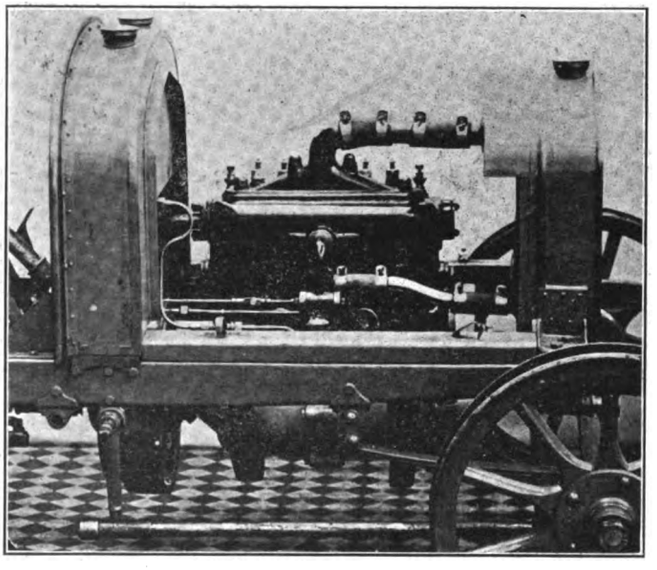
As for the tendencies apparent in detail, it was noticeable among other things that the popularity of the block type of motor is increasing among the makers. Several of the smaller types of car have these motors in remarkably condensed form. The Delage motor is a good example of this, though by no means the most complete in its class. Block castings, however, seems to be confined largely to motors of the popular low powered type. Larger motors, of course, have the twin form of casting to a prominent degree. Where two or more models are produced by the same maker in powers not too widely differentiated, the difference is frequently obtained by altering the bore and retaining the same stroke, one of the two thus obtaining the newly popular long stroke. A trend, which may be supposed to follow in the wake of the long stroke motor, is that looking toward the use of larger valves, many of which already are in evidence.

Improvements in detailed construction of the motors appear in the arrangements for mechanical force-feed lubricating systems for the cylinders and crank shaft bearings; the displacement of exhaust pressure for fuel feed systems in favor of automatic air-pumps; complete, double ignition installations in increased numbers; and a growth in the use of interlocking hand and foot control located either on the foot board or steering wheel. Ball bearings are practically universal on the better grades of car, whether large or small, and appear at practically important points except the crank shaft and the big ends of the connecting rods. The "gate" change gear system is prevalent, though frequently in crude form, and the almost universal type of change gear system is prevalent, though frequently in crude form, and the almost universal type of change gear is the sliding pinion.

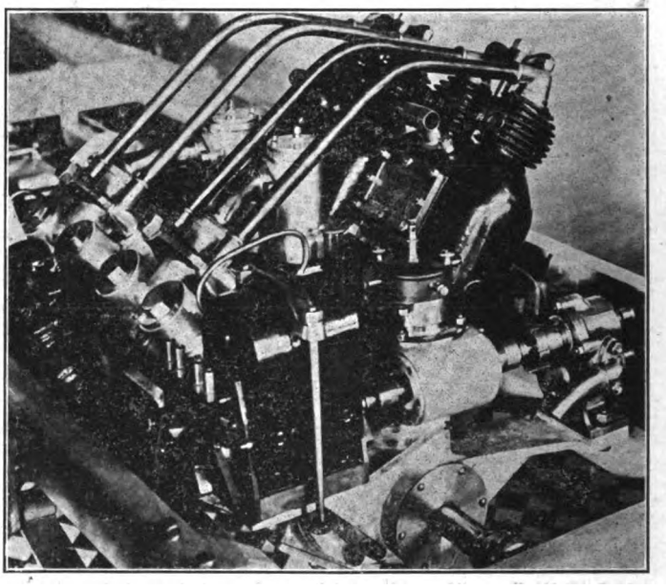
A marked impression gained from a general inspection of the vehicles as a whole was that of the rapid growth in the use of the closed car, particularly in the light landaulette and cab patterns. Covered bodies of all types were very numerous, and upon the larger examples, wonderfully fine workmanship and ingenuity of design were manifest. The bulk of the display of light cabs was at once impressive and suggestive. Prices, as a rule, revealed small reductions, considering the general run of vehicles. A few exceptions to the rule of constancy, however, were to be found in instances where makers had seen fit to make a small advance on former prices.

The accessory section was replete with the usual impossible array of new and old novelties, providing at once the most bewildering and fascinating section of the show. Among the larger components to be found, was the Allen-Liversidge front wheel braking system, described in last week's Motor World. Of the promising novelties on view, the field of ignition furnished the better part. As is always the case with an early show, however, the complete cars furnished so much material for study as to preclude the possibility of examining them in detail.

Among the novelties of the British show season is a collapsible funnel intended for use in filling the fuel tank and radiator when touring. It is formed of successive tapering rings of thin sheet metal much the same as the ordinary folding drinking cup, except that at the bottom it is provided with a neck of relatively small diameter intended to fit into the filling aperture. When collapsed it will go into the tool kit very nicely.



THE COMPACT 4-CYLINDER DELAGE



ODD CONSTRUCTION OF THE "TWO-STROKE" MOTOR

More Taxicabs for San Francisco.

San Francisco, Cal., has taken to taximeter cabs with such avidity that a number of companies for their operation have recently been formed. Among the latest of these is a $300,000 concern headed by Fay C. Beal, president and general manager. The directors include C. M. Beal, George P. Fuller, L. W. Harris, R. J. Marx, Frank Hooper and Clarence R. Ward. It is also rumored that the United Carriage Co., at present operating the largest hack and transfer system in the city is planning to install taximeter motor cabs.

Birmingham to Buy Motor Trucks.

A delivery and transfer business which will use motor cars and trucks instead of horses has been started in Birmingham, Ala., and will be known as the Auto Livery Co The officers and directors of the company are H. T. Shoup, president; N. O. Tyler, vice-president; H. Lee Brown, treasurer, and A. J. Morgan, secretary.

Lindsley to Locate in Seymour.

The Lindsley Motor Car Co., Dowagiac, Mich., is reported to have let contracts for the construction of a factory building in Seymour, Ind. When it is completed it is the purpose of the Lindsley company to remove to Seymour.

Automobile dealers of Omaha and Council Bluffs have decided to hold a show in Omaha, Neb., from March 1 to 6, inclusive. The exhibition will be given in the Auditorium.

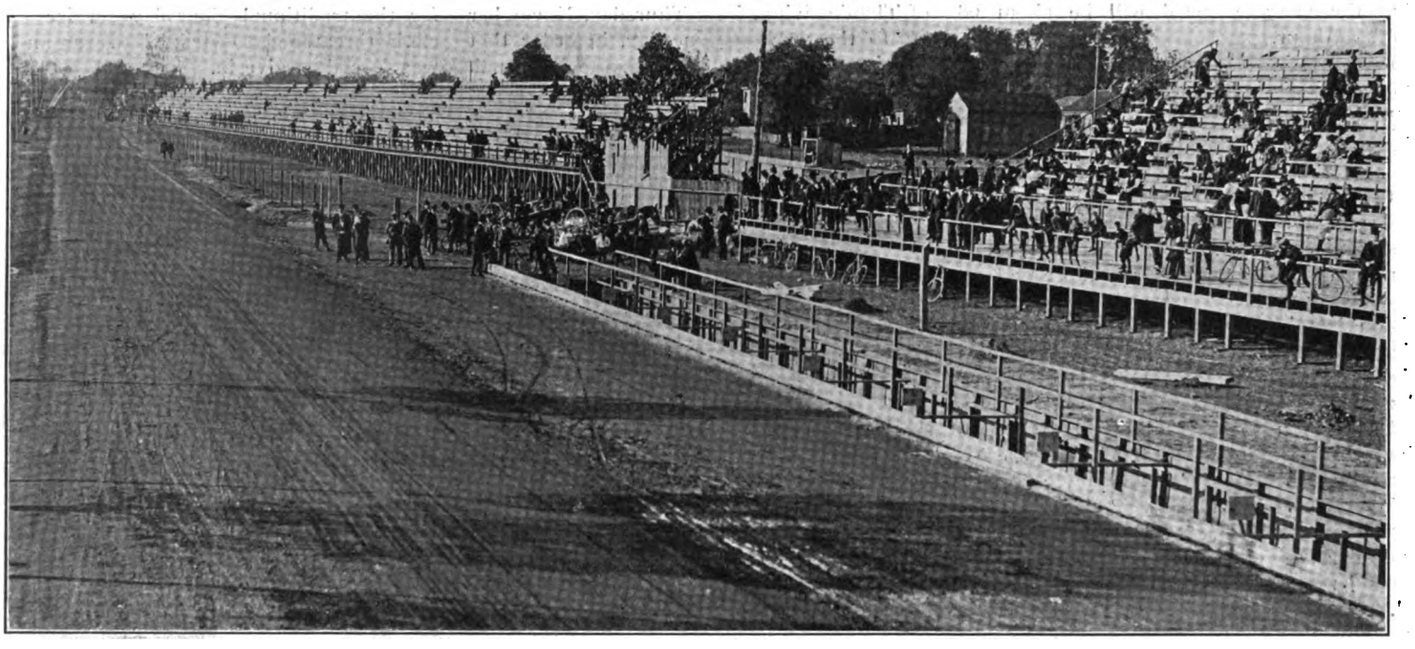
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SAVANNAH ON TIPTOE FOR GREAT SPEED BATTLE

Even Churches Yield to Interest in Grand Prize Event and Hold No Thanksgiving Services—Contest to be a Race of Drivers—Strang Fastest in Practice and Hemery the Favorite—Mighty Influx of Visitors From All Points of the Compass.

Thanksgiving Day in Georgia will be a very different kind of a holiday from that which is being celebrated to-day elsewhere in the United States. Instead of the traditional turkey shoot and church service, all of the city of Savannah, much of the State of Georgia, and of other states, will have started bright and early for the automobile race. Churches are closed, shooting ranges deserted, dinners getting cold, and with a goodly share of visitors from north, east, south and west, but mostly north, a throng which no previous forecasts had overestimated hangs on the outcome of the first American Grand Prize race, and which originally was organized as a "spite race" by the Automobile Club of America, of New York, which organization "used" the Savannah club to assist in pulling its foreign chestnuts out of the fire.

Starting at 9 o'clock, twenty drivers will scurry around the kite-shaped course. But because it is not only kite-shaped, but introduces a number of wonderfully complex side-steppings, kinks and reversals, it is quite the most wonderful course ever laid out in America for a great road race. Much of it has been specially prepared for the occasion. It has been oiled with such zeal that in places it has had to be sanded over to render it safe. It has been banked and tamped and rolled. In its 25.13 miles of length are opportunities for exceptional speed, exceptional skill in driving, and exceptional daring in taking chances. The course is picturesque in its setting; its hazards are all known by fanciful and suggestive names. Where church and State united on Tuesday in offering up Thanksgiving for a bountiful harvest, church, State and the people unite to-day, in the fulfilment of a long-cherished dream.



VIEW OF GRANDSTAND, THE OLD STAND WITH EXTENSIVE ADDITIONS IN THE BACKGROUND.

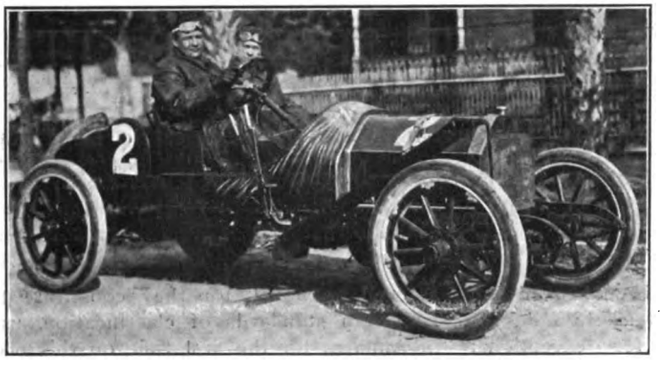
Like the Grand Prix in Europe, Savannah's great race was preceded by the light car race which yesterday afforded a foretaste of what might be expected on the morrow. It attracted attention chiefly because its setting was practically the same as that of the great event itself. Nevertheless in the performance of 15 small cars built not for racing purposes, but—ostensibly at least, and in most cases actually—for runabout and touring work, was sufficient interest in itself to hold the attention of a big crowd. For the difficulties of the 9.8 miles course may be held to have been in proportion, about as great to these machines, as the difficulties of the great course to the big cars.

The present definitions of "big" and "little" cars are intersting in this connection, as well as novel, for they constitute the European standards of classification, used in America for the first time on this occasion. When the disgruntled Automobile Club of America decided to assert its self-constituted prerogative by promoting a big international race in conjunction with the ambitious and aggrieved Automobile Club of Savannah, or even before the 16 lap Georgia circuit had been chosen for the 400 miles race, it announced the adoption of the European standards used this year in the Grand Prix race over the Dieppe circuit.

These rules require a cylinder bore of not more than 6.1 inches and a minimum weight of 2,420 pounds. The requirement for the light car race was a maximum bore of 3.75 and minimum weight of 950 pounds. No other restrictions were made as regarded size.

As is already well known, the arrangements for the race are very complete, while all sorts of inducements have been advanced to tempt the ambitious contestants. As a stimulus to encourage the establishment, if possible, of a new road record, the Savannah Automobile Club offers a cash prize of $2,500 to the driver who can beat Nazzaro's average of 74½ miles per hour made in the Targa Florio race on the Bologne circuit

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HILLIARD, LANCIA, READY FOR A SPIN



MUNTWEILER, MAXWELL, IN AN IDLE POSE

in Italy last year. The experts doubt if this can be done; the general opinion being that the average speed will be about 68 miles an hour.

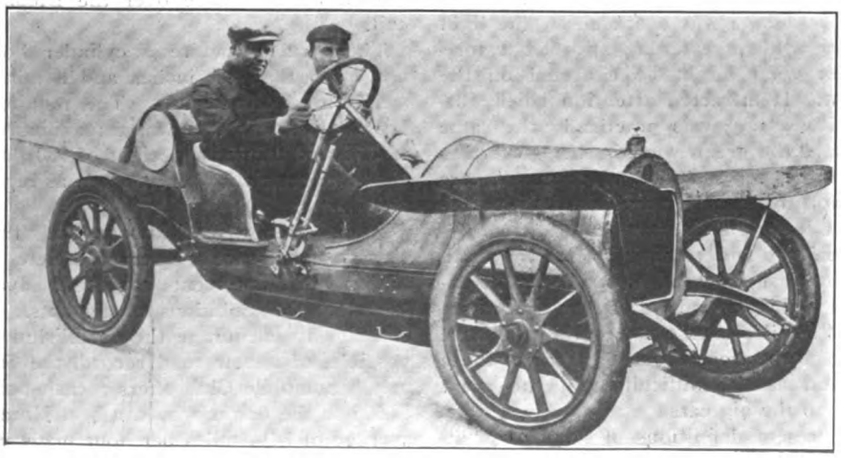
Every precaution has been taken to keep the course absolutely clear so that crowds will not handicap the drivers as has been the case in Vanderbilt Cup races. Even so, the southern crowds, being less familiar with motor cars than those of New York and vicinity, already have proved much easier to control. Last April at the stock car race on this same course, there was no trouble from this source, yet ample provision has been made to curb the unruly element. The military protection includes eight regiments of the National Guard, under command of Major William B. Stevens.

In addition to the military patrol, 135 flagmen line the course. The latter are essentially for the drivers' benefit, each carrying the usual red and yellow flags. The activities of Chairman Robert Lee Morrell and his associates who planned and arranged the contest, have been well rewarded. Grand and press stands have been thoughtfully erected at an angle to the road in order to permit spectators to get a better view of the cars as they sweep down the long stretch than when placed paralleling the course.

Indeed, the extent of the city's appreciation for the event is in no way better evidenced than by the fact that its churches actually changed the date proclaimed by the President of the United States as a day of Thanksgiving, from Thursday, November 26, to the previous Tuesday, in order that nothing might interfere with the Savannah public's desire to see the big race—a thing perhaps unparalleled in the country's history. Realizing that practically every churchgoer would attend the race instead of church services, the various clergymen agreed to hold these services two days ahead—all save one minister, who held out for the traditional Thursday service. His choir threatened to strike however and he was forced to give in.



BURNS, CHALMERS-DETROIT, ON A STRAIGHT STRETCH

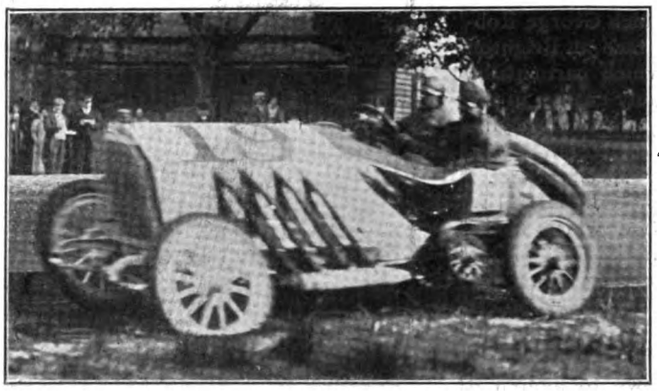


GEORGE ROBERTSON AND HIS BIRD-LIKE GREGOIRE

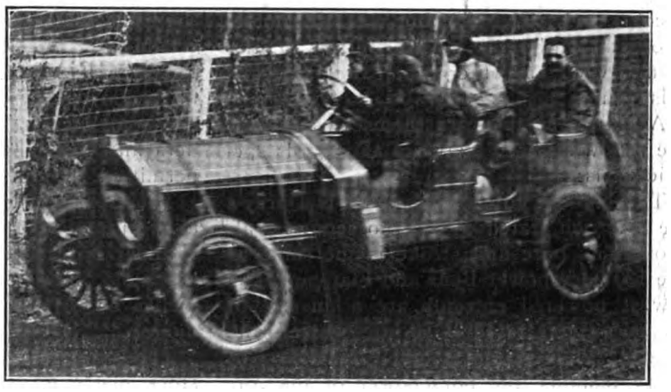
The big drawing card of the Grand Prize contest to-day is that the cream of the world's most famous drivers will be pitted in the fray, a feature which the last Vanderbilt Cup race lacked. The race will be one of drivers rather than cars, particularly as regards the foreigners. All the cars of the latter are of appoximately the same power and aside from accident and tire trouble handicaps, skill will decide the race.

Italy seems to have her share in the way of an "all star cast" of drivers; the team of six comprising five men who are famous in America as well as Europe. Piacenza is the only pilot not known on this side of the Atlantic, while the remaining quintet is composed of a former winner of the Vanderbilt Cup, Louis Wagner; Henri Fournier, one of the pioneer foreign drivers who made records in America some years ago; Alexandre Cagno, of Vanderbilt Cup note; Ralph De Palma, the one American driver on this team, who holds the world's mile track record of 51 seconds; and Nazzaro,

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ERLE, BENZ, AT THUNDERBOLT CURVE



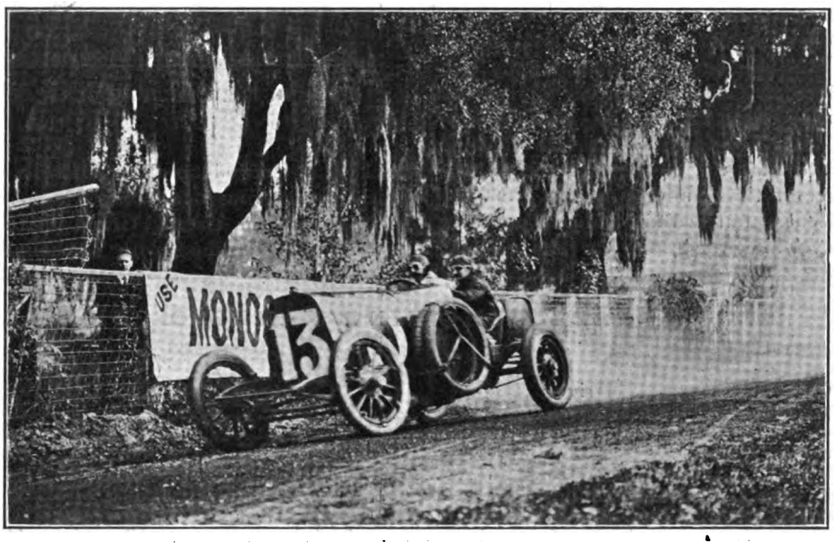
HAUPT, CHADWICK, AT ISLE OF HOPE

that prince of the "dare-devils." It was Felice Nazzaro who won the three big European races of 1907; the Targa Florio, German Emperor's cup, and the Grand Prix; making an average of 71 miles an hour in the latter, while in the Florio, he set up the average of 74¼ miles an hour, the road-racing record. In addition to this, on the Brooklands cement track with a 4 cylinder Fiat, Nazzaro covered 121.58 miles in an hour. He agrees with other experts in the belief that a new road mark will not be established at Savannah, on acount of the numerous turns.

Of the Frenchmen, Francois Szisz, of early Vanderbilt and later foreign fame, will be watched, and his performance in the Renault compared to that of Lewis Strang, whom fortune favored twice this year and who like De Palma, is an American driving on a foreign team. Arthur Duray, who is to pilot a De Dietrich, as he did in the 1906 Vandelbilt, was born in New York City, although he cannot speak English, having lived abroad most of his life. Hautvast and Rigal are the only members of the French forces not known to Americans.

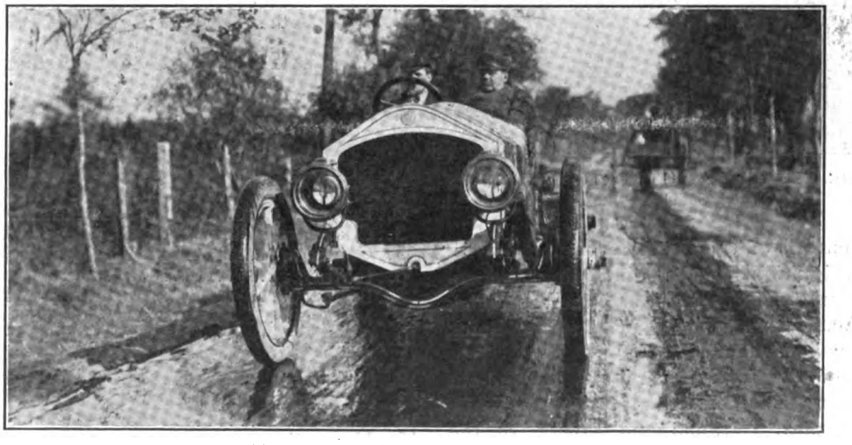
Victor Hemery, winner of the 1905 Vanderbilt Cup race, is the star of the German representation, while his team mates, Hanriot and Erle, will make their debut on this side in Benz mounts.

The American team has some good stuff in it. All are American boys except Harding, the driver of the National car, who is English. Aside from the latter, the team represents the newer crop of our drivers. Mulford and Seymour were brought into prominence through Briarcliff and recent 24 hours races. "Willie" Haupt was not known until the recent Vanderbilt Cup, in which he made such a splendid showing by holding the lead during the fourth, fifth and sixth laps, when an accident to his Chadwick mount spoiled his chances. Leonard Zengle, the Acme pilot, well known to Philadelphians, made his first appearance in a big road race at Fairmount Park on Labo. Day, while Robert Burman has been making quite a reputation at hill climbs and track meets during the past year and was one of the Buick drivers in the Long Island Sweepstakes. All of these pilots are young fellows of more or less experience, but none is quite as seasoned as the majority of the European drivers. When the Grand Prize race starts, one driver will be missed—George Robertson, whose only performance at Savannah was scheduled for the international light car race, at the wheel of the French Gregoire car.



HAUTVAST, BAYARD-CLEMENT, IN A FAST TRY-OUT

While it is probable that no new road record will be established, fast time will be made nevertheless, as has been evidenced by the performances of the cars in try-outs. The fastest lap recorded during the days of practice was that of Lewis Strang, who, in his Renault on Tuesday's additional practice, spun around the 25.13 miles circuit in 20 minutes, 53 seconds, which is at a rate of slightly more than 72⅕ miles an hour—amazing speed considering the many turns



ZENGLE IN THE ACME—NOTE EXCESS OF OIL ON ROAD

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encountered. The clocking was, of course, unofficial, although S. M. Butler, of the Timers Club, and other expert timers caught this figure.

A glance at the cars themselves reveals the following brief statistics as regards specifications:

The highest powered machine is Duray's De Dietrich, rated at 125 horsepower, although its bore and stroke is the same as the 120 horsepower Benz and Fiat cars. The lowest powered entrants are a quartet of American cars rated at 50 horsepower—the Lozier, Simplex, Buick and Chadwick. In every instance the horsepower of the foreign motors is rated at just double or more than double that of the Americans; none of the European cars rating at less than 110. All of the latter possess the maximum bore, 6.1 inches, while the Simplex is the only domestic car that aproaches this diameter. The only six cylinder machines in the list are flying the stars and stripes, the Acme, Chadwick and National.

Fifty per cent. of the contending cars are shaft-driven, which is a bigger proportion than has been the case in the majority of big races within the last few years; chain drives having predominated in all the Vanderbilt Cup contests, and important events abroad. Despite the opinion which engineers have held for a long time that the chain drive would in time replace the propeller shaft design entirely on big racing cars, the latter type is apparently gaining favor. All the entered cars have three-speed or four-speed selective type change gears, with the exception of the two Renaults, which are progressive.

The heavyweight of the big contest is the Simplex, which tipped the scales at 3,325 pounds at the official weighing in last Saturday, while the lightest is the Szisz Renault, weighing but 2,525.



VICTOR HEMERY'S HITHERTO UNKNOWN SMILE

Seventeen of the field are equipped with Bosch ignition systems, including the entire foreign representation. The Chadwick and Acme have high-tension and the Buick a Remy equipment.

All of the foreign cars are out-and-out racing machines of Grand Prix type, while the Simplex, National and Lozier, of the American team, are essentially stock cars. The Simplex which Seymour will pilot is the same stock car with which George Robertson won the 24 hours race at Brighton Beach in October, and which participated in the Lowell race. The only change in the car is an increase in the bore of the cylinders and the substitution of larger valves, permitted by the cylinder specifications.

The Lozier entry is a Briarcliff model in all respects save the motor, which has a cylinder bore of 5¾ inches instead of the stock 5¼ inches; the stroke remaining 5¼ inches as in the regular 45 horsepower model.

The six-cylinder National candidate is a stock machine, dressed down to lighten it somewhat for racing, but has no special motor or other vital part. Its transmission is identical with the company's other "Big Sixes."

Inasmuch as the turns in the course are so numerous, there being more than 250 to be swung in the whole 400 miles drive, tires will play a vitally important part. That the strain on tubes in rounding corners is what does the damage, is a well-known fact. This has been demonstrated by performances at Ormond Beach. In the 300 miles race there last March, which necessitated very few turns, the late Cedrino drove the Fiat the entire distance on the same set of tires and the tires were quite cool when he finished and showed no signs of wear, while the same car on circular tracks has chewed up tires within a short time on numerous occasions.

Fifteen of the twenty Grand Prize contestants will be shod with Michelins, the

THE COMMITTEE I



S. M. BUTLER, HERBERT LAW, E. R. HOLLANDE
S. B. STEVE

TABLE SHOWING NAMES OF DRIVERS AND

No.	Car.	Driver.	Country	H.P.	No. Cyl.	Bore.	Stroke.	
1	Bayard-Clement	Victor Rigal	France	120	4	6.1	6.3	
2	Lozier	Ralph Mulford	America	50	4	5.75	5.25	
3	Simplex	Jos. Seymour	America	50	4	6.1	5.75	
4	Buick	Robt. Burman	America	50	4	5.	5.	
5	Chadwick	Wm. Haupt	America	50	6	5.	5.	
6	Fiat	Felice Nazzaro	Italy	120	4	6.1	6.3	
7	Acme	Leonard Zengle	America	60	6	4.99	4.99	
8	Benz	Victor Hemery	Germany	120	4	6.1	6.3	
9	De Dietrich	Arthur Duray	France	125	4	6.1	6.3	
10	Renault	Francois Szisz	France	115	4	6.1	6.2	
11	National	Hugh N. Harding	America	60	6	5.	5.	
12	Itala	Alexandre Cagno	Italy	110	4	6.1	6.3	
13	Bayard-Clement	Lucien Hautvast	France	120	4	6.1	6.3	
14	Fiat	Louis Wagner	Italy	120	4	6.1	6.3	
15	Benz	Rene Hanriot	Germany	120	4	6.1	6.3	
16	Renault	Lewis Strang	France	115	4	6.1	6.2	
17	Itala	Henri Fournier	Italy	110	4	6.1	6.3	
18	Fiat	Ralph De Palma	Italy	120	4	6.1	6.3	
19	Benz	Fritz Erle	Germany	120	4	6.1	6.3	
20	Itala	Giovanni Piacenza	Italy	110	4	6.1	6.3	

TABLE SHOWING NAMES OF DRIVERS AND

No.	Car.	Driver.	H.P.	No. Cyl.	Bore.	Stroke.	Ignitic
1	S. P. O.	H. A. Conners	18	4	3.25	5.1	Bosch
2	Lancia	W. M. Hilliard	12-18	4	3.5	4.	Bosch
3	Chalmers-Detroit	L. J. Bergdoll	30	4	3.75	4.5	Bosch
5	Cameron	F. T. Cameron	18	4	3.75	4.	Remy
6	Isotta	Al. Poole	10	4	2.4	3.9	Bosch
8	Buick	Robt. Burman	18	4	3.75	3.75	Remy
9	Maxwell	Arthur See	14	2	4.5	4.	Splitdorf
10	Chalmers-Detroit	L. B. Lorimer	30	4	3.75	4.5	Bosch
11	Buick	E. A. Hearne	18	4	3.75	3.75	Remy
12	Maxwell	Thos. Costello	14	2	4.5	4.	Splitdorf
13	Chalmers-Detroit	W. R. Burns	30	4	3.75	4.5	Bosch
14	Buick	Ewing Easter	18	4	3.75	3.75	Remy
15	Maxwell	Jos. Muntweiler	20	2	5.	5.	Splitdorf
16	Buick	Earl Jeffers	18	4	3.75	3.75	Remy
17	Maxwell	C. W. Kelsey	20	2	5.	5.	Splitdorf

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ARGE OF THE RACE



BERT LEE MORRELL, A. H. WHITING, DR. PARKS, D F. J. WAGNER

entire German-and Italian teams using them, in addition to three French cars and four American. The two Bayard-Clement cars and Duray's De Dietrich will carry Dunlops, while Mulford, in the Lozier, and Seymour in the Simplex, of the American team, will bank on Continentals. All will use demountable rims.

Savannah, Ga., Nov. 25.—The entire City of Savannah is on edge for to-day's curtain raiser of the Grand Prize event—the 200 miles international light car race, which is scheduled to start at 11 a. m. Never before in its history has this southern city been so overwhelmed with visitors or been under such a strain of excitement. Never has it witnessed such a pilgrimage of northern people as that which has been pouring in during the past few days, while thousands from the adjacent and distant cities of Dixie are augmenting the merry throng. The attendance is surpassing that of the stock car race held here last April many fold and those who are harbored in the special trains that brought them, are perhaps better off in regard to accommodation than those who are housed in the hotels. In addition to the army of respectable visitors a great horde of "promoters" also has embraced opportunities presented. Horse racing and pugilistic carnivals have been in full blast and the crowd of gamblers, card sharps and light-fingered gentry that follow in the wake of such "sports" is large and active.

The race which starts to-day will in all probability see 15 contestants face the mark, provided the S. P. O. car which was wrecked, can be tuned up in season. In this contest of the little fellows, it is hard to pick a winner. In the practice trials so many of them have shown their ability to get around the 9.8 miles course in slightly more than 10 minutes, that they seem pretty evenly matched in most cases.

The Maxwell, Chalmers-Detroit and Buick teams, which make up more than two-thirds of the list of contenders, will strive desperately to outpoint one another, for numerous reasons, while William Hilliard, who got acquainted with the motoring public at Briarcliff, will try to "show" the people with the little Lancia "Lampo," (which means Greased Lightning in Italian), and Al. Poole, who made so many friends when he drove an Isotta here in the spring, will go the limit with the Italian company's cradle youngster, the 10 horsepower "Baby Isotta." This was the car that Herbert Lytle was to have piloted, but his unfortunate attack of typhoid fever has precluded it. The little Isotta was purchased last week by George M. Townsend, a 1908 Yale graduate, and son of the late Judge William K. Townsend, of New Haven, Conn. To-day will be Poole's first appearance in a race since his accident while practicing for the Lowell (Mass.) race nearly three months ago, when he broke his collar bone in a smashup.

Frank T. Cameron will be at the wheel of the only air-cooled car, his 22 horsepower namesake, which he drove in the recent Long Island Sweepstakes. Louis J. Bergdoll, the young Philadelphia brewer and automobile dealer, will be the only real live millionaire driver in the race, and will stick to the wheel of his Chalmers-Detroit. This motor enthusiast first sprang into the



HANRIOT, BENZ, AND HIS NOVEL WIND SHIELD

public eye when he made a 100 miles stock car record at Ormond Beach, Fla., last March and later drove with less success at Briarcliff and Fairmount Park. Robert Burman is the only driver who will appear in both light car and Grand Prize events. K. R. Manville, the entrant of the American Aristocrat, a car of his own special design, sent word last Sunday that his entry would not start.

IFICATIONS OF CARS IN GRAND PRIZE RACE

ion.	Clutch.	Change gear.	Drive.	Weight.	Wheel Base.	Tread.	Tire sizes, inches or mm. Front.	Rear.	Make of tires.
	Disc	Selective-4	Shaft	2,775	107	50	870x 90	880x120	Dunlop
	Disc	Selective-4	Shaft	3,075	124	56	34x 4½	34x 5	Continental
	Disc	Selective-4	Chain	3,325	126	56	910x110	920x120	Continental
	Cone	Selective-3	Shaft	2,700	108	56	34x 4	34x 4	Michelin
ension	Cone	Selective-3	Chain	2,950	112	56	36x 4	36x 4	Michelin
	Disc	Selective-4	Chain	2,750	107	50	870x105	880x120	Michelin
ension	Cone	Selective-4	Chain	2,600	109	56	34x 4½	34x 4½	Michelin
	Cone	Selective-4	Chain	2,925	108	52	880x120	880x120	Michelin
	Disc	Selective-4	Chain	2,875	107	52	870x105	880x120	Dunlop
	Cone	Progressive-3	Shaft	2,525	105	50	875x 90	875x120	Michelin
	Cone	Selective-3	Shaft	2,750	116	56	34x 4	34x 5	Michelin
	Disc	Selective-4	Shaft	3,150	118	54	875x105	895x135	Michelin
	Disc	Selective-4	Shaft	2,700	107	50	870x 90	880x120	Dunlop
	Disc	Selective-4	Chain	2,750	107	50	870x105	880x120	Michelin
	Cone	Selective-4	Chain	2,925	108	52	880x120	880x120	Michelin
	Cone	Progressive-3	Shaft	2,550	105	50	875x 90	875x120	Michelin
	Disc	Selective-4	Shaft	3,275	118	54	875x105	895x135	Michelin
	Disc	Selective-4	Chain	2,775	107	50	870x105	880x120	Michelin
	Cone	Selective-4	Chain	2,875	108	52	880x120	880x120	Michelin
	Disc	Selective-4	Shaft	3,300	118	54	875x105	895x135	Michelin

CIFICATIONS OF CARS IN LIGHT CAR RACE

Clutch.	Change gear.	Weight.	Wheel Base.	Tread.	The Sizes—Inches or mm. Front.	Rear.	Make of Tires.
Cone	Selective-3	....	110	56	32x 4	32x 4	Michelin
Disc	Selective-4	2,000	105	52	810x100	810x100	Continental
Disc	Selective-3	1,600	110	56	32x 3½	32x 3½	Michelin
Cone	Selective-3	1,125	98	56	32x 3½	32x 3½	
Disc	Selective-3	1,500	82	49	710x 90	710x 90	Michelin
Cone	Planetary-2	1,500	88	56	30x 3½	30x 3½	Michelin
Disc	Planetary-2	1,525	84	56	30x 3½	30x 3½	Ajax
Disc	Selective-3	1,600	110	56	32x 3½	32x 3½	Michelin
Cone	Planetary-2	1,475	88	56	30x 3½	30x 3½	Michelin
Disc	Planetary-2	1,175	84	56	30x 3½	30x 3½	Ajax
Disc	Selective-3	1,900	110	56	32x 3½	32x 3½	Michelin
Cone	Planetary-2	1,125	88	56	30x 3½	30x 3½	Michelin
Disc	Progressive-3	1,125	96	56	32x 4	32x 4	Ajax
Cone	Planetary-2	1,550	88	56	30x 3½	30x 3½	Michelin
Disc	Progressive-3	1,150	96	56	32x 4	32x 4	Ajax

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READY TO MEET ANY FIERY EMERGENCY

While the unofficial clocking of the light cars has not been complete by any means, the best time recorded for the 9.8 miles course during the early practice was Earl Jeffers's lap in 10:42 with his Buick, while on Monday, the last day of practice trials, this figure was clipped materially, when Burman had a brush with Cameron and the former made a lap in 10:19 against the latter's 10:23, the best times recorded since the course was thrown open.

Two bad accidents, one of which resulted fatally, marred the practice for the light car race. The first mishap occurred on Wednesday of last week, when Burman's Buick burst a tire and hit a tree, badly injuring his mechanician, Grinnon, who is still confined to the Savannah hospital, where he is said to be improving. He sustained several broken ribs and fractured left elbow, but will recover. Burman pulled through unhurt.

The other casualty which resulted in the death of Marius De Rosa, the S. P. O. car's mechanician, came on Saturday, when Jean Juhasz was trying out this car. Juhasz had made two circuits in 13:32 and 13.21, respectively, and was attempting more speed, when it is said he tried to avoid hitting a dog and swerved into a telegraph pole. De Rosa had his skull fractured by the fall, in addition to internal injuries, and died shortly after being taken to the hospital. The driver of the unlucky car was picked up with a broken leg, but his chances for recovery are good. An effort has been made to repair the car and Conners, who was the late Emil Stricker's mechanic, has been nominated to pilot it. Two days have been spent in straightening out the smashed frame and a rear wheel and axle have been borrowed from a touring car and fitted—an ingenious piece of substitution inasmuch as the new axle is of larger size.

The announcement that George Robertson will not drive to-day has caused much disappointment. He was scheduled to handle the French Gregoire car which, through an error in shipping, did not arrive until yesterday, giving him no opportunity to try it out on the course or tune it up sufficiently.

Another change in drivers for the Grand Prize event has been announced; Ralph Mulford having been named to take Michener's place in the Lozier entry.

Yesterday (Tuesday) additional practice of 1½ hours was permitted on the long course, during which Lewis Strang in his Renault made the record time for the course, going one lap in 20:53. Hautvast, De Palma, Burman, Piacenza and Fournier were also out for less speedy trials.

Scores of negro convict laborers have been at work during the hours when practice was not in progres, repairing spots around the course, that were roughened during trials, and making every effort to put the road in the pink of condition.

The crowds have been swarming the course ever since daybreak, although the fray will not begin until 11 o'clock.



BURMAN'S BUICK AFTER ITS SMASHUP



REPAIRING THE COURSE AFTER PRACTICE

Another Climbfest for Giant's Despair.

That mountain which is considered the best climbing ground in the East, by many people in the motoring industry—"Giant's Despair"—is to be the scene of another annual contest on May 29th, 1909. The Wilkes-Barre (Pa.) Automobile Club has definitely decided upon this date, although the matter of a sanction has not been fully settled. At the time of the Vanderbilt Cup contest President George F. Lee, of the Wilkes-Barre Club, conferred with officials of both the American Automobile Association and the Automobile Club of America, but did not formally apply for a sanction from either body. It is known that the Automobile Club of America intends to run at least one big hill-climbing contest each year and the local motorists, it is said, would like to see this event take place on "Giant's Despair" course.

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BALTIMORE SEES GOOD CLIMBING

Smith Makes Best Time up Washington Hill and Wins Two Events—Live Contests in All Classes.

Baltimore's maiden effort at holding a hill climb occurred on Saturday, 21st inst., when the Automobile Club of Maryland conducted its competition on Mount Washington hill. Success crowned the attempt, which several thousand spectators witnessed, and while hill climbs are usually stupid affairs, Baltimore's contest proved a welcome exception to the rule.

The fastest time made for the day was 43⅕ seconds for the six-tenths mile course, made in the free-for-all event, when Wilfred Smith, driving W. W. Lanahan's 60 horsepower Stearns, succeeded in beating a field of six, including a Stanley and a White steamer. In view of the steep grade, his time was considered no less than remarkable. In addition to this performance, Smith captured the $4,000 event with the same mount in 0:45½, and a few minutes later, when Lanhan, the owner took the wheel in the high-powered amateur event, he drove the machine up the incline for another first place to the tune of 0:46.

In the opening event for cars listing between $1,251 and $2,000, J. L. Cassard, driving a Stoddard-Dayton, made the best time, but was later disqualified for the reason that his car carried a magneto, which not being a part of the $2,000 equipment, placed it above that class. Harry A. Tate, who drove a Chalmers-Detroit, was awarded first place, his time being 1:03½, with J. F. Heaver in a Kisselkar second.

Wallace C. Hood got away with the $2,001 to $3,000 event in 0:54½, when he dusted up the slope one-half second better than J. Sperry's Stevens-Duryea. O. I. Yellott drove a 15 horsepower Ford into first place in the $3,000 and under amateur division, in 1.05, beating his only opponent, H. H. Heyser, in a 48 horsepower Winton, by 5 seconds.

The electric timing system was so manipulated that after each trial the time was at once reported to the spectators along the line and not withheld as is so often the case at hill climbs, at which the mere spectators are kept in the dark as regards scores. The event was so satisfactory that similar future contests seem to be assured.

Non-Repair Trophy for Glidden Tour.

It is possible that the complexities of Glidden tours in general will be further augmented when another competition of the sort is undertaken by the introduction of a new subsidiary competition in which the contestants shall seek to eliminate all repair work. The subject has been broached by Col. George Studebaker, of South Bend, Ind., who has declared his willingness to offer a $5,000 trophy to be competed for in some such way, subject to the approval of the touring board of the American Automobile Association. No special limitations would be placed on cars competing for the "Studebaker Gold Cup," but any device hitherto used to guard against the making of repairs and to ensure an honest reliability score would be employed. These would include sealed bonnets, sealed tool boxes, and official observers. The idea is based upon the desirability of reducing the number of "perfect scores" usually obtained at such times, and of furnishing manufacturers a difficult sort of competition which they might enter to some purpose, yet without the necessary outlay involved in either of the special races of the year.

Belmont Park a Possible Motordrome.

Now that Governor Hughes and the horse racing bills have forced horse trainers, bookmakers, $20,000 jockeys, touts and other professionals to seek occupation as elevator boys, car conductors, shoe clerks and chauffeurs, it is only natural that the race track managers in New York state should cast about for new fields of effort. Morris Park, Empire City oval and the Brighton track that was, became motordromes, to be sure, and now it is suggested that Belmont Park may become an automobile course if no horse races take place there in the spring. As this is a 1½ miles track and is well banked at the turns, it would doubtless prove safer for motor car contests than was the Brighton course, and it is not unlikely that the future may see considerable agitation for its use.

Two Days of Racing for Bakersfield.

Two days of motor racing have been planned for Bakersfield, Cal., to take place on Thanksgiving Day and the following Sunday, November 29. The holiday event is to be a mixed one; both horses and automobiles performing on the same track the same afternoon. The automobile races will be confined to local cars, while on the following Sunday, there will be a 5 miles event for cars listed at $1,250 and under, two 10 miles races—a $3,000 class event and a free-for-all, winding up with an 8 miles handicap. Among the starters in the latter matinees will be several well known western drivers, including Frank Free, Bert Latham, Bert Dingley and Frank Murray.

Five Events for "Dolly Cole" Hill.

Five events have been scheduled for the Rhode Island Automobile Club's annual Thanksgiving Day hill climb at Providence. "Dolly Cole" Hill is the battleground of the affair and various contestants who have entered will endeavor to decide the permanent ownership of the C. Prescott Knight trophy, which has been won two successive years by L. F. N. Baldwin, with a Stanley steamer. Should the latter driver succeed in winning the cup for the third time to-day, it will become his property for all time.

STRANG ORGANIZES HIPPODROME

His Motoring Troupe Ready to Furnish Thrills to Order—Galveston Gets His First Bid for a Date.

Those who have followed with more or less interest, the performances of racing automobiles at various state fairs and track meets in the past will be interested to learn that Barney Oldfield's old "Green Dragon" and "Red Devil," as well as the "Grand Prix" Renault, are now "properties" of a hippodrome team headed by Lewis Strang, under the management of Bill Pickens, of United $tates Motor Racing Association fame. The newly formed company recently hippodromed at New Orleans, and he who was lauded as the hero of Savannah, Briarcliff and Lowell, evidently expects to make a circuit of dates after the Grand Prize race is run. Associated with him are Arthur Redfern, the ex-jockey, and one or two others, who will provide a line of high strung spectacular performances to the order of any enterprising organization willing to close dates with them on their own terms.

A letter which Strang recently wrote to E. H. Labadie, secretary of the Galveston Automobile Club, is self-explanatory. The driver who is about to follow the circus style of Barney Oldfield and Christie, writes:

"I am going on a trip to the Pacific Coast, starting from Savannah, I will have in addition to my Grand Prix Renault of 120 horsepower, and my Renault 24 racer, two cars formerly used by Oldfield, the Peerless Green Dragon and the Peerless Red Devil. Will, of course, have drivers for the cars and two great motorcycle racing men with racing motorcycles from the Indian factory.

"Here is the first opportunity Galveston has ever had to get such a lot of noted cars for a speed carnival on the beach. If the Board of Trade or other organization can be seriously interested, I would be pleased to figure with you or them for a couple of days. I would say as an estimate of the cost that about $750 would be required to defray the expenses. But you would get some real racing and great speed in return. The date would be early in November. Awaiting your early reply, yours very truly,

"LEWIS STRANG."

Paper Trail to Thanksgiving Feast.

Chasing paper trails for a good dinner is the prospect opened to members of the New Haven Automobile Club for Thanksgiving Day. The plan is to have a secret dinner rendezvous, to which the members must find their way by means of the scatterings of confetti along Connecticut's highways. Those who cannot read the trail correctly will miss the dinner.

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JACKSON OFFERINGS FOR 1909

Four Distinct Vehicles, Including Two Brand New Models—Improvements in Older Members of the Line.

Four distinct vehicles comprise the line which the Jackson Automobile Co., Jackson, Mich., is announcing for the forthcoming year. Two of these are entirely new and include a number of unusual features. Of the others, one is continued over from last year with practically no changes, while the other has undergone a number of alterations in matters of detail. The brand new offerings are known as Models "H" and "K." The former a 30 horsepower touring car having 110 inch wheel base and shod with 4-inch tires, and including magneto equipment, sells for $1,600, and the latter a light touring car, also boasts a price feature in its $950 listing, with a $100 reduction when sold with only the runabout form of body.

Model "H" has a 4½ by 4½ inch motor of the quadruple, vertical type, with the conventional arrangement of the valves in offset pockets, three-bearing crank shaft, and cylinders cast in pairs. In many ways it may be regarded as a smaller size of the larger Model "E.' This is true in the case of the steering gear, clutch, magneto and other parts which are made to the same specifications for both models. The front axle is a single-piece drop forging. The rear axle, which is of the floating type, is provided with roller bearings next the wheels, and adjustable ball bearings on either side of the differential, which are so contrived that they may be regulated without dismounting the group from the chassis. The propeller shaft has two universal joints and a separate torsion rod. The wheels are 32 inches in diameter, shod with 4-inch tires.

The second of the new models also is a shaft driven car which, however, is propelled by a double-opposed motor, placed transversely in front. The cylinder dimensions are 5 by 4 inches, and the rated output is 18 horsepower. Except for the change gear, the mounting of this machine is similar to that of the last named—at least so far as regards the method of axle mounting, and the arrangement of the propeller shaft and torsion rod. The change speed arrangement, however, is of the planetary type.

The largest member of the line—Model "E"—retains the over-head cam shaft construction which was its distinguishing feature last year, as well as the design of the unit power plant, which is particularly pleasing. The unit is mounted by means of positive suspension members on either side of the fly wheel casing, and flexible members in front and back of it. A feature of the motor design is the use of very large bearing surfaces for the cam shafts and rocker members, while the inclined position of the valves gives an interior cylinder formation which conduces to successful thermal action. The transmission is by propeller shaft, through a multiple disc clutch having five units, of 12 inches diameter, selective change gear, and floating axle. The system is mounted on annular ball bearings, and is lubricated by automatic circulation from the engine base reservoir.

Brakes are arranged in such a way that all linkage is brought inside the frame, and the drums for the internal-external members, are separated by a liberal air space. The steering gear embodies a combination of the screw and nut and rack and pinion types—the nut being long enough to embrace the entire body of the screw, while its exterior on one side is toothed to engage a pinion on the steering rocker shaft, the arrangement providing great strength.

The remaining model—"C"—has a 5¼ by 5 inch, opposed motor, chain drive, and 32 by 3½ inch wheels. Like the other models of the line it has the thermo-syphon system of cooling which has been a Jackson feature since 1906, and is similar to the standard in a number of other respects. While resembling its predecessor of the current year in a number of details, it differs from it in the matter of wheel base, that dimension having been lengthened to 104 inches.

Auto-Meter Presents New Features.

Quite different in appearance from previous models, the new Auto-Meter, produced by the Warner Instrument Co., of Beloit, Wis., embodies a number of changes calculated to add to its desirability as a speed indicator and mileage recorder. In the new model the mechanism is enclosed in a circular case having a flat face, with openings for the figures. The trip register records to a total of 10,000 miles as against 1,000 miles, the usual maximum for trip dials, and the total mileage register has a 100,000 maximum, where 10,000 has prevailed in the past. The speed indications are similar to those in the older models produced by the company, but a new feature consists of a concealed electric bulb which lights all the readings when a button is pressed. Improvements also have been made in the flexible shaft and connections looking to the utmost durability. The instrument incorporates a clock when desired.

Care in Handling Tilting Bodies.

Users of cars provided with tilting bodies should beware of the danger of the supports jarring loose when the engine is running and permitting the body to fall. This contingency usually is carefully provided against by the manufacturer, but at the same time there is danger that a careless operator may neglect to fasten the supporting struts or braces properly when lifting the body to effect a wayside repair.

APPERSON MAKES TAXIMETER CABS

New Product Adapted to Private Town Use or Commercial Purposes—Specifications of the Construction.

That taximeter cabs have for some little time been a product of the Apperson Bros. Automobile Co. has just been disclosed. The factory at Kokomo, Ind., is turning out quite a number of machines of this type, mounted on the regular Model O chassis. The vehicles sell for $3,000 and are suitable for either private, town service or commercial purposes. The motor is of 30 horsepower, with four cylinders cast separately. A double system of ignition is used, including magneto and storage battery. The change gear is three speed selective, and shaft drive is employed, with a full floating type of rear axle. The wheels are "dished," running on a "plumb spoke," and carry 34 by 4-inch tires. The body is of the landaulet type. When desired the top may be pushed back, all the windows concealed within the body work, and the window frames folded down. On order a removable top is placed over the driver's seat and also a removable front glass.

Antidote for Poorly Designed Carburetter.

Although it is not generally appreciated it is doubtless a fact that a considerable amount of fuel is wasted from poorly designed carburetters when the car is running, owing to improper float regulation and consequent dripping from the base of the mixing chamber. To obviate this, it is well in some instances to "damp" the action of the float valve in some way, thus making it less responsive to the dancing action of the float. Sometimes this may be accomplished by limiting the travel of the valve, sometimes by stiffening the action of the light mechanism which connects the valve and float. At all events, it is not sufficient to see that the float chamber does not overflow when the car is standing still and the motor at rest. This must not occur when the engine is being raced, or when the car is running over rough ground. In either case. the waste is at once a source of a small amount of expense and a great amount of danger.

Diamond Rubber Improving a Street.

For a huge manufacturing concern to offer to repave practically an entire street free of expense to its home city is an incident as unusual as it is unexpected. Just such an offer has been made by the Diamond Rubber Co., to the city of Akron, Ohio, the privilege being asked in return for the right to utilize a small portion of the street in order to connect recent additions to the plant with the old buildings. The offer has been accepted and the work will involve a $20,000 outlay.

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BUSY PRODUCING CLOSED BODIES

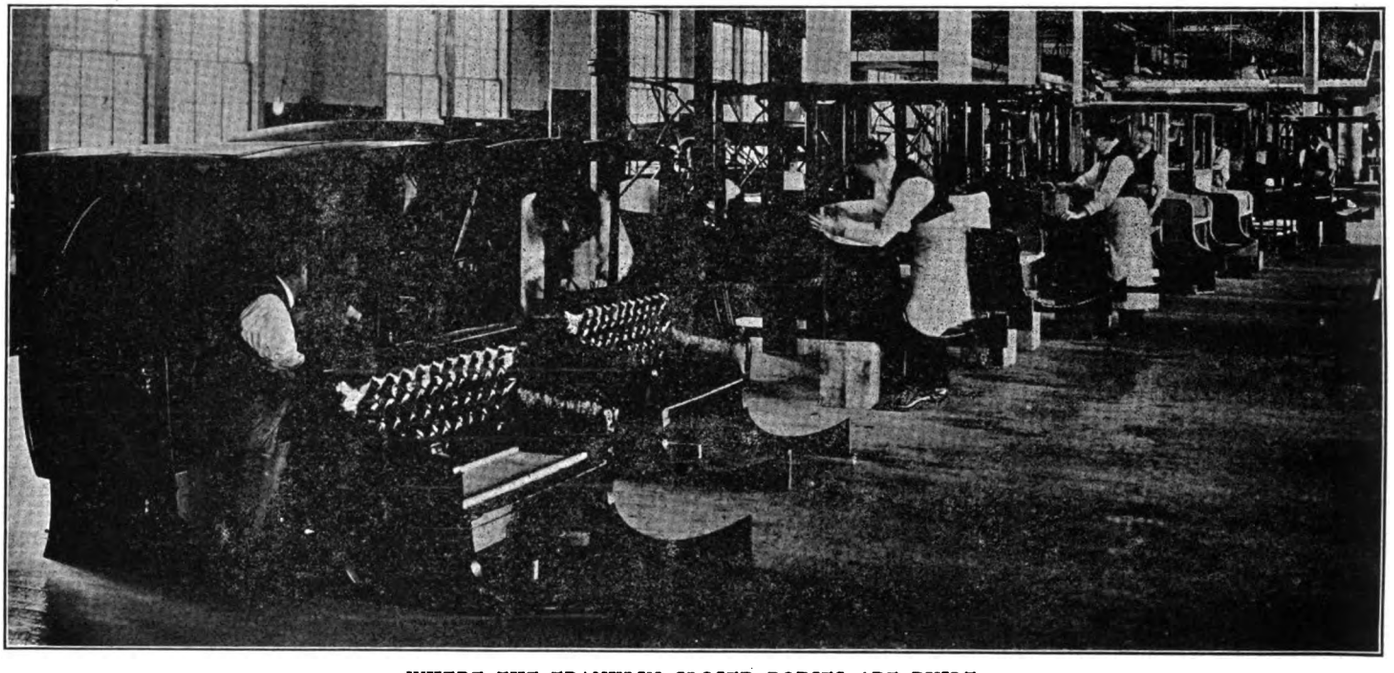
Activity at the Franklin Factory Indicates the Growing Demand—Differing Types Included in the Line.

Careful development of the body building department in many of the better equipped automobile factories has been the means of bringing about an unforeseen contingency in the business of production. With the perfection of body types by the car builders has come a growing demand for bodies in some little variety and especially where this demand is beginning to run to mountings of the closed type, it has been found necessary in more than one instance to increase the capacity of the department to keep pace with the orders. In the case of the H. H. Franklin Co., Syracuse, N. Y., the work of the body department is now reported to be a more important factor in the business than ever before. Just at present, work is being advanced rapidly on large orders for closed bodies in the rough and the trestles in the wood shop and the trimming floor are well filled with bodies in all stages of advancement toward the finished state. The rate of production is being increased as the new addition to the plant nears completion, and is gradually being absorbed by the growing departments.

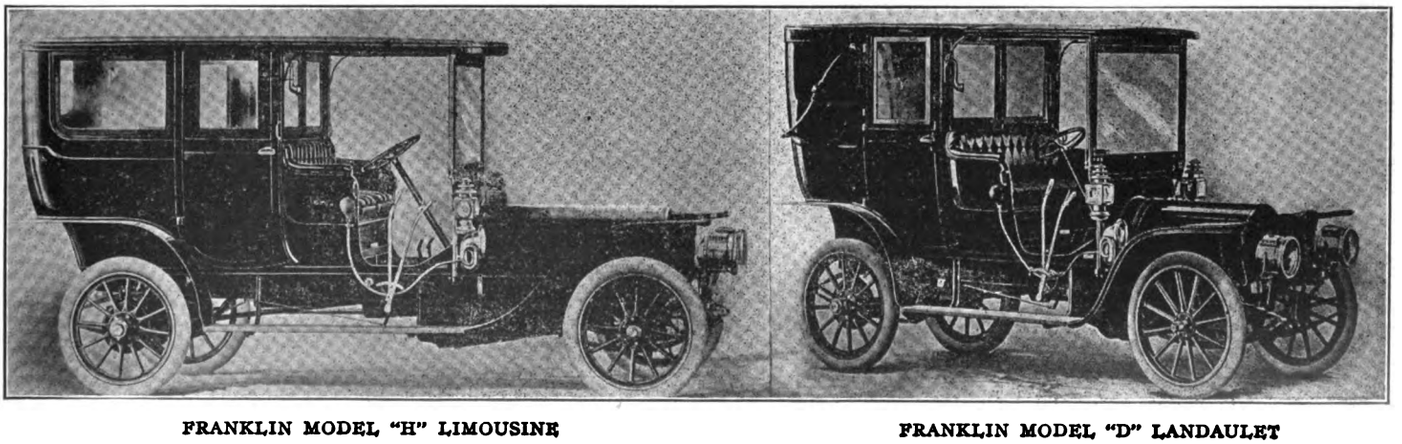
Some idea of the activity in this department, is furnished by the accompanying picture showing a corner of the shop where a lot of landaulet bodies are being finished. The presence of such a large number of stock orders in a single factory, moreover, casts some light on the growing demand for this class of vehicle throughout the industry, for it was only a year or two ago that bodies of this type were made up only on special order, and few makers ventured to risk holding them in stock.

The closed body line, which is a comparatively new feature of the Franklin output, is produced in several different types. They include an 18 horsepower, inside-driven brougham seating two passengers; the "K-2" town car, which is a six-passenger vehicle mounted on the motor cab chassis; an 18 horsepower, four-passenger landaulet—which is claimed to be the smallest vehicle of its class at present on the market, and which is listed at a figure calculated to attract attention—and a second landaulet which is mounted on the 28 horsepower chassis. Both of the landaulets are similar in design and construction, differing only in the matter of size. The limousine is the largest of the group, and is driven by the 42 horsepower, 6-cylinder motor. It seats seven passengers and is quite the most pretentious and largest in the line.

The body construction is all of original design, incorporating a combination of wood and aluminum materials. The chassis employed are practically the same as are used for the touring cars and roadsters of corresponding powers, but are especially strengthened for the purpose. That is to say, in addition to being lengthened out, the frames are stiffened to meet the extra requirements of the added weight.



WHERE THE FRANKLIN CLOSED BODIES ARE BUILT



FRANKLIN MODEL "H" LIMOUSINE

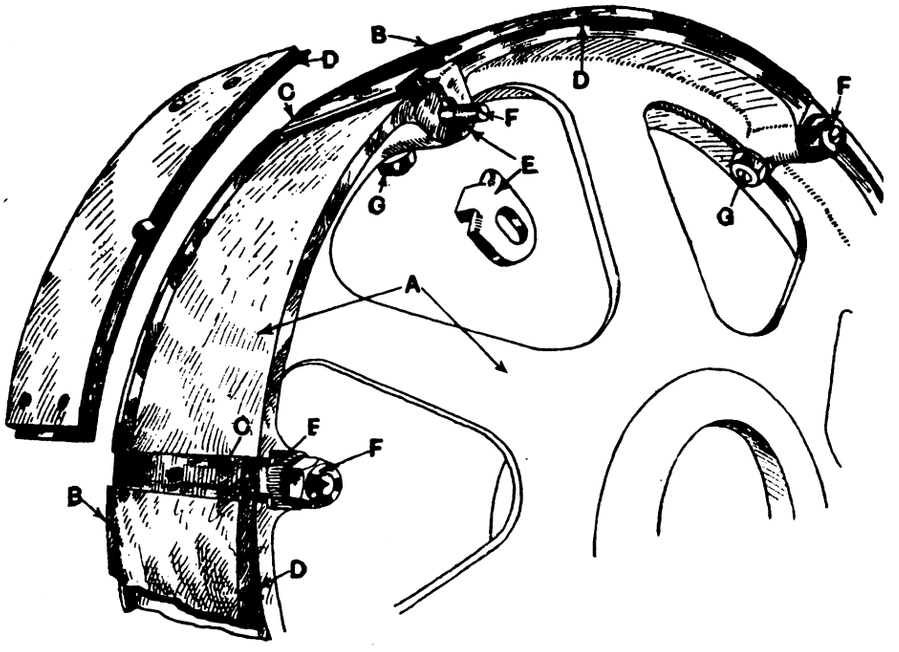
FRANKLIN MODEL "D" LANDAULET

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NEW FEATURES IN CONE CLUTCH

Provision for Removal of Leather Lining in Sections—Novel Construction of Springs Under Bearing Surface.

It might be supposed that the ordinary type of plain cone clutch had been reduced to practically its lowest terms long since. That such is not the case, however, is shown by the development of a new device in connection with the clutch applied to the latest model of the British Austin car, in which provision is made for the complete removal of the leather lining in sections and by means of an attachment suggestive



in a way, of the mounting of the familiar detachable rim in the tire field. An additional feature of unusual merit and originality lies in the use of relieving springs which are continuous throughout the bearing surface of the leather, and secure the initial contact at the center of the leather instead of at the smaller end of the cone as in ordinary practice.

In order to effect these improvements the ordinary conical spider—otherwise cast in the same manner as the usual clutch cone—is provided with a set of six T-shaped lugs running across the face of the cone parallel to its axis and forming with the cone surface a series of slots into which the ends of six strips of flat spring steel are fitted. These strips form at once the relieving springs and the backing for the leather facing of the clutch, the facing being in sections corresponding to the shape of the strips, and which are riveted in place in the usual way.

The accompanying illustration indicates the arrangement in detail. The clutch spider proper, A, is of perfectly regular formation except that at intervals it is provided with bosses running across its lower face and arranged to mount the lugs, C, which engage the ends of the spring plates, D, upon which the leather facing, B, is secured. Studs, F, projecting from the ends of the bosses carry the clips, E, which hold the plates in position once they have been slid into place. Additional security is furnished by the secondary studs, G, which draw the lugs, C, downward.

Instead of being perfectly flat, the strips are crowned through the center, thus forming a very slightly elevated ridge through the center of the engaging surface of the leather, but one which yields to pressure due to the flattening of the crown of the strips when the female cone of the fly wheel is engaged. The arrangement of the slots in the male cone into which the strips are slid permits the latter to be withdrawn at any time without removing the clutch from its shaft or in any way disturbing its mounting. When the cone is disengaged, a series of six bolts on its rear face are loosened, thus releasing as many lugs, which lock the sections of the facing in place. As soon as this is done, one or more of the sections of the working face may be withdrawn, when it may be renewed, cleaned, treated with oil by soaking it in a pan, or otherwise repaired in a few minutes time. The clutch is but little more complicated or heavier than the ordinary type, is simple to handle, and possesses the further advantage to the tourist that a complete extra working face may be carried in the tool kit, packed in small compass, for use in case of a burn out of the leather or any other accident of a similar nature, this in itself compensating for whatever there is of extra weight in the part itself.

RATIOS OF WEIGHT AND CAPACITY

Wherein Automobile Design Excels that of Railway Vehicles—Data Based on Results of Actual Comparison.

Vehicle weight in proportion to horsepower has received considerable attention in the automobile industry at one time or another, although the question of weight in proportion to passenger or load-carrying capacity has not been subjected to close scrutiny. In other lines of transportation, however, and particularly in the field of railroading it is rated a matter of considerable importance, though exact figures are not always readily obtainable. Considering the fact that in only rare instances the railway car is compelled to carry its own power plant complete and that in any event it is driven or drawn over a right of way which is specially prepared for the purpose, it might be supposed that its ratio of weight to useful capacity would be greater than that of the motor vehicle designed for highway use. That such is not the case, but rather that the automobile, even when of the most complete and luxurious type is considerably lighter, is much to the credit of the designer.

Until recently no data on this subject that might be regarded as authoritative, has been compiled. A street railway and electrical journal, however, a short time ago, made an investigation of various models of electrically driven passenger cars. Forty-six different cars were used as the basis for the compilation and most of them were found to weigh from 1,200 to 1,333 pounds a seat, the number of seats ranging from 40 to 71. The range in weights may be appreciated when the fact is shown that of two cars, each seating 60, one weighed 854 pounds per passenger and the other 1,213. Little argument would be needed to show passengers which of the two would be safer for traveling, or a buying company which would prove more durable. The Pullman company goes still farther on the question of weights, its sleeping cars with a capacity for 30 people, weighing about 125,000 pounds, or 4,166 pounds per passenger.

In this connection it is interesting to compare with the figures the weight of the full-fledged touring car. As an example, a six-cylinder Pierce Arrow, developing 48 horsepower, with the water, oil and gasolene tanks filled, and equipped with a cape top and glass front, weighs only 572 pounds per passenger. One of six cylinders, developing 60 horsepower and with the tanks all filled and similarly equipped, weighs 639 pounds per passenger. The weight per passenger of the touring car as compared with the interurban trolley is thus just one half, while in the same way it has but a little less than one-seventh the weight of the Pullman sleeper.

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BATES'S BAIT FOR ORDERS

Cut Prices for Customers Ordering by Mail —"Just as Good as Anybody Else's" the Modest Claim.

Solicitation for mail order retail tire business has been tried for some time by cut price houses, but a rubber company manufacturing tires and planning to sell its output by mail order methods at cut price figures is a little bit newer. Yet the blessings of such an institution were not to be withheld from the private owner forever, and at last he is to be delivered from the greed of the established tire concerns through the introduction of that modern method of merchandising expressed in crystalline form as "from Kalamazoo direct to you."

Kalamazoo does not happen to be the place in this instance, but the principle is the same, or is intended to be. Rutherford, N. J., is the happy spot, and the Rutherford Rubber Co. is the firm. That the company knows what it is about in soliciting business by mail almost goes without saying after it is disclosed that its president is none other than Charles Austin Bates, who as an advertising expert at one time deigned to criticize and improve the "copy" for advertising letters and pieces of business literature, at from $5 to $50 per piece.

Until recently Bates has been proving the efficiency of his circular letters by marketing mining stock through their use. In turning to tires he brings to bear the master touch of experience in the letter writing art, giving at once a vigorous presentation and an impression of great self-restraint in endeavoring to state the facts fairly and with simple modesty.

According to the letters, the Rutherford proposition contemplates saving the owner of a car from $10 to $40 per tire, or from 25 to 60 per cent. on tire expense. Even the most ardent seeker after bargains would make an inquiry into the quality of tires offered, however, so that this point is carefully covered.

It is all very simple. As Bates himself explains, "There is no mystery about an automobile tire. Anybody who wants to and knows how, can build a good one—just as good as anybody else's." Continuing he names several prominent makes which he pronounces "good tires simply because their makers use good rubber and fabric and put them together right."

Such being the case it is made clear where the company's own tires stand. No bragging or wild statements when it comes to that point. Not a bit of it! Bates actually confesses that "they are not better than the best—only as good." Who could help but feel confidence in products backed by people making their claims in such a gentle, open and above-board way? Most people in trying to sell goods enumerate certain advantages or points of superiority, but Bates is quite content to pick out the world's best in tires and to let it be understood simply that his tires are of the same quality.

It will no doubt be a great surprise to the trade to learn that "there are no secrets" about the manufacture of automobile tires, according to Bates. The blow will fall hard on some of the bigger makers who have been paying enormous salaries to men who make pretences of special rubber knowledge. After all the money that has been spent in the past in developing successful "compounds" and vulcanization treatments, it is disheartening for the older tire manufacturers to find that Bates has wrested their secrets from them and is willing to share them with the world at large.

Following the policy of making it as easy for the customer as possible, the first letter to the owner whom the company seeks to interest, contains a return postal card which only requires the filling out of the name and address to bring all the details and prices. As a quiet tip, however, it is unnecessary to fill out the card, the proposition being pretty sure to come along anyway. Sure enough, the second letter tells all about it, whether the first one has been ignored or not.

Enclosed with the letter is the price list, together with a duplicate order blank, just such as one would fill out in buying mining shares, and having pretty red serial numbers in the corner. Under the name of the tires is printed "Wear! Wear!!" but it is not made clear whether slowly or quickly. As for the price list the "blue tubes" are exactly the same in price as the retail list prices on Diamonds and other lines, while the prices on the casings in no instance are as much as either $10 or 25 per cent. less than the retail list on standard tires, which in view of the fact that the letters promised a saving of from $10 to $40 on each, or from 25 to 60 per cent., is something of a disappointment, no doubt, to the man who has fallen under the spell of the persuasive Bates advertising "copy."

Instructive Reading for Agents.

Agents ambitious to become well posted on modern methods of selling motor cars as well as of advertising and building them —and Rambler agents in particular—are likely to derive no small interest and profit from the pages of the Dealer's Number of the Rambler Magazine which has just been issued by Thomas B. Jeffery & Co., Kenosha, Wis. In addition to a complete description of the 1909 line of Rambler cars, considerable space is given over to descriptions of the methods of manufacture and sale of the cars, suggestively illustrated and conveniently arranged.

RATING OF IGNITION CAPACITY

British Society of Motor Manufacturers and Traders Adopts Specific Rules—Official Label to be Used.

One of the minor abuses to which the accessory branch of the British automobile trade has been subjected is the rating of ignition accumulators according to a more or less imaginary capacity. "Ignition capacity," as it is called, of course is of practically no value to the user, because of the varying consumption of ignition devices under different conditions of adjustment and load, as well as the varying resistances which they oppose to the passage of the current. To simplify matters and ensure for the user a rating which shall be at once comprehensive and sufficiently accurate to enable him to use the batteries intelligently, the tire and accessory section of the Society of Motor Manufacturers and Traders has made an investigation as a result of which certain recommendations are made and an official "S. M. M. T." rating established which all manufacturers may use, provided they agree to certain conditions.

The rating rules are as follows:

"(1.) Accumulators shall have printed on their labels their actual capacity when discharged at a definite rate continuously, this rate being one-twentieth of the capacity claimed. An interval of rest to be allowed, such interval not to take place until half the period of discharge has expired.

"(2) The accumulators can have printed on their labels the approximate capacity with intermittent current, which shall be arrived at by doubling the actual capacity obtained by following Rule 1.

"(3) In cases of dispute on the subject of the actual capacity of an accumulator, such dispute may be referred to the S. M. M. T., who may order tests carried out on the basis of Rule 1 by some competent authority, such as the Electrical Standardizing and Training Institution, Faraday House. London."

The officially sanctioned labels will read:

Capacity.	S.M.M.T. Rating.
Actual capacity at constant discharge	Amp. hours
Approximate capacity with intermittent current	Amp. hours

White Construction for Ambulances.

How the principles of White construction have been embodied in the various ambulances, patrol wagons and buses which have been produced by the White Co., Cleveland, Ohio, is told in a booklet recently issued. Illustrations show ambulances used by the War Department, Navy Department and by the cities of New York, Philadelphia, Chicago and Trenton, as well as those of private hospitals.

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CLUB AND ASSOCIATION DOINGS

How the Organizations are Promoting Interest in Motoring—Active Work for Making the Highways Better.

Treason to the horse might almost be suspected in the case of the organization of the Fulton County Automobile Club, at Atlanta, Ga. The club had its orginization meeting in the rooms of the Piedmont Driving Club, supposedly sacred to equine interests. But many of the members of the latter club are broad enough in their view to appreciate both motor cars and horses, and did not hesitate to go into the new movement. The officers chosen are as follows: Edward H. Inman, president; Charles I. Ryan, vice-president; W. G. Humphrey, secretary and treasurer. It is the intention of the club to build a country club house immediately. Among the objects of the new club the creation and promotion of interest in the good roads movement naturally holds prominence, and in this it will co-operate with the horse drivers' organization.

At Newton, Kan., the motorists have organized the Newton Automobile Club, and among its first activities is the preparation of a good roads campaign. A "permanent roads committee" has been appointed and it will be the duty of the committee members to make frequent trips over the neighboring highways and to take note of road defects and the possibilities of improvement. Following these investigations, conferences will be held with the road overseers in the districts where the poor conditions exist, with a view to arranging for the necessary repairs and attention. The club declares itself willing to pledge financial aid for the work.

To establish a fund for the apprehension and conviction of automobile thieves and to take action against persons who throw nails and glass in the streets, the motorists of Fort Wayne, Ind., have formed the Fort Wayne Automobile Owners Protective Association. A fund of $500 was subscribed at the first meeting, for the purposes indicated. In addition to its aggressive legal plans, however, the club expects to effect more social objects as well. The officers selected include E. H. Merritt, president; George DeWald, vice-president; A. L. Randall, secretary, and Van B. Perrine, treasurer.

By the appointment of "inconsiderate driving committees" the local clubs belonging to the Royal Automobile Club of England are not intending to further inconsiderate driving as might be supposed, but are preparing to lessen it as far as possible. Strong action is to be taken against offenders, including expulsion if they be club members, and the police and public are invited to co-operate with the committees in reporting and prosecuting the guilty drivers. The committee for each local club consists of five members, and they are required to investigate all cases within their jurisdiction. The club's definition of "inconsiderate driving" includes every case in which another user of the road is put to unnecessary inconvenience, whether there has been an actual infraction of the law or not.

Prizes for those of the Chicago Motor Club who bring in the most new members indicate the earnestness of the club's intention to raise its membership to at least 300. The "300" campaign is now under full swing, and awards of $100, $50 and $25, will be made to those who secure the first, second and third largest number of applicants, respectively. To create an interest in the club's election, a novelty has been introduced, consisting of a nominating committee whose duty it will be to select at least two complete tickets for all the elective offices, before the club election on December 12.

Instead of waiting to get driblets from the legislative mill, a number of wealthy Trenton automobilists, comprising the membership of the Mercer County Automobile Club, have just completed at their personal expense, the oiling of a section of road between Trenton and Mercerville, N. J., on the route from New York to Philadelphia. The treatment given the road surface is said to have proved an entire success in laying the dust, and the people along the section express themselves as delighted with the result.

Burdened as it is with the name La Moviganta Klubo, the fashionable women's motoring club of Philadelphia is thriving and happy. Among its latest achievements is the perfecting of an arrangement with the Royal Automobile Club of England by which the Movigantans become associate members of that organization. The compact gives the Philadelphia women all the privileges of membership in the Royal club in European touring.

Over fifty automobile drivers and mechanics of Omaha, Neb., met recently and formed the Nebraska Association of Automobile Drivers. The association plans to increase the efficiency of its members by providing a technical library and by having technical addresses, from time to time. In addition to its social program, the association will also take a hand in local legislative regulation. The officers elected are: A. Schultz(president; Charles Crawford, vice-president; Gus Rudolph, recording secretary; Robert Melvin, financial secretary and treasurer.

Danger signs at short distances from railroad crossings and bad hills, culverts and turns, are to be put up by the Columbus Automobile Club in Columbus, O., and on the outlying roads. The latter will also be posted with signs giving road directions and distances. All the signs will be in blue and white enamel. Contributions for the work, which is quite expensive, are being sought from all automobile owners of the vicinity.

Distribution of scenic tour maps has been undertaken by the Wilkes-Barre Automobile Club, the maps showing ideal tours to New York, Boston, Philadelphia and other large cities, by way of Wilkes-Barre, Pa. The club is also completing arrangements for a magnificent new club house, where visiting tourists will be welcomed.

Under the name of the Lehigh Valley Motor Club, 35 automobilists of Bethlehem, Pa., have organized for both social and practical purposes. The first election of officers resulted as follows: Robert L. Stuart, president; H. R. Seaman, vice-president; William D. Shantz, secretary; Fred H. Sterner, treasurer.

Holding the interest of the members through the winter months is the object of a series of dinners and lectures that have been arranged for by the Automobile Club of Portland, Ore. The lectures will be given in a convention hall which has been engaged for the purpose.

Herbert M. Sawyer has been elected secretary of the Massachusetts State Automobile Association, to take the place of J. Fortescue, resigned. The new secretary resides in Worcester, Mass., and has been assistant secretary of the Worcester Automobile Club.

Private owners and agents have combined at Madison, Wis., and have formed the Madison Automobile League. The following officers have been chosen: W. E. Petrie, president; Dr. Frank Smith, vice-president; A. E. Austin, secretary; and M. H. Conklin, treasurer.

The Port Caddo Motor Club has been formed and will have its headquarters at Caddo Lake, Texas, where a commodious clubhouse is being built. Judge Lyttleton has been chosed president, with Sid Coleman, secretary, and Fred Heidelberg, treasurer.

Santa Barbara Vetoes Road Bonds.

After a very animated campaign, the voters of Santa Barbara county, Cal., have rejected by a close vote the proposition to issue $1,250,000 worth of bonds to aid in the construction of a through road from San Francisco to Los Angeles. The chief objection made was that it would put too great a burden on the county alone, particularly in view of the fact that Governor Gillette's plan to have the State issue $18,000,000 in bonds for the building of improved roads is likely to go through in the near future, in which case the money would be forthcoming from that source.

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HOW FINES ARE IMPOSED BY MAIL

Magistrate Naar's Methods Aired in Prosecutor's Bill of Particulars—The Case Against Him Advances.

A sequel to the announcement of last week that action had been brought against Justice of the Peace Manfred Naar, of Trenton, N. J., for alleged illegal methods of administration in conducting a mail order system of fining motorists accused of exceeding the speed limit, came on Friday last when Joseph A. Sexton, of Perth Amboy, filed in the New Jersey Supreme Court at Trenton a bill of particulars in the damage suit against Naar, for alleged false arrest and fine in connection with an alleged violation of the New Jersey speed law. Sexton denies that he violated the law as charged by the Justice of the Peace and claims that the action was an effort to extort money from him. He sues for $200 damages for the arrest and fine.

On August 18 last, says the complainant, Sexton received from Naar a letter saying that there had been lodged against him a complaint by Officer Wright, of Mercer county, of excessive automobile driving on August 16. Sexton was ordered to call at Naar's office and answer the complaint on August 22. The letter went on to say that in case of failure to appear judgment would be entered and filed with the Department of Motor Vehicles.

The bill goes on to show that the complainant replied by letter, denying any speed law violation and expressing unwillingness to come to Trenton on the date named because of the inconvenience. On August 20 Sexton received a second letter from Naar, written on a letter head of the New Jersey Detective Bureau, in which it was said that if he did not care to appear for a hearing he could send a check for $8.75 fine and costs and that would settle the matter. A check on the First National Bank of South Amboy endorsed by Naar is one of the exhibits in the case.

Pennsylvania Judge on Illegal Arrests.

By the terms of a recent decision in Pennsylvania it has been established that before arrests of motorists can be made for violating the speed law, it must be proved conclusively that the offending motorist has covered a full mile in less than the time limit prescribed by lay. The ruling was handed down by Judge Sadler at Carlisle, on November 16th, in a habeas corpus proceeding brought on behalf of a chauffeur for John Hay, a local attorney. The constable making the arrest in the case had testified that he had measured a quarter mile course, over which the accused had driven at excessive speed. Judge Sadler also decided that justices have no right to issue warrants outside the county in which the offense is committed; that the action is civil or penal and not criminal and that the commonwealth cannot be a party to the proceedings.

Joy Riding Chauffeur Loses License.

"Joy riding" without permission from the owner of the car has resulted in the revocation of the driver's license of John Krumbine, of Elizabeth, N. J., who on the night of October 20 took a car from the garage of the Elizabeth Automobile Co. and started out with a merry party. The machine did not go very far before an accident took place which ditched it and did considerable damage. State Commissioner of Motor Vehicles J. B. R. Smith, in speaking of his action in revoking Krumbine's license, said "All such cases will be summarily dealt with by this department. These night rides are nearly always in violation of the speed limits, generally result in the intoxication of the drivers and occupants of the machines, and endanger both the lives of those in the cars and of people riding or walking on the roads."

Bridgeport Will Punish Reckless Drivers.

Bridgeport, Conn., has been aroused over a series of recent accidents due, it is charged by some, to the lax administration of the present automobile law, and by others to inherent weakness of the law itself. Early last week, Mayor Martin issued an order to Chief of Police Cowles, to instruct his forces to arrest every motorist found driving in a reckless way through the streets. The order is a repetition of one issued some time ago, but hitherto enforced principally by men detailed for the purpose. In the same connection, an open letter to Chief Cowles has been officially endorsed by the Automobile Club of New Haven counseling a better enforcement of the law and offering to place a fast car at the disposal of the department for overtaking offending motorists who seek escape in flight.

Jersey Licenses Must Soon be Renewed.

Former holders of New Jersey licenses are being reminded by J. B. R. Smith, commissioner of Motor Vehicles, that it will be necessary to take out new licenses on December 31, and that the authorities will be very severe in apprehending and punishing those who try to operate their machines within the state on old licenses. Owners are advised to forward their application for new licenses at once, and the commissioner promises that delivery on the new tags and cards will be started by December 1 or earlier. Commissioner Smith's original anouncement called for the filing of applications at the main office of the Department of Motor Vehicles at Trenton. A later special order, however, announced that applications filed with A. B. Le Massena, Newark agent of the department would receive proper attention.

FOR UNIFORM NEW ENGLAND LAWS

Interstate Conference of Governors and Other Officials in Boston—Automobile Legislation One of the Topics.

Unique in the Annals of legislation is the first New England Conference on Uniform Laws, which opened in Boston on Tuesday this week. Its roster includes the governors, lieutenant-governers and governors-elect of New England, senators, members of congress and other officials of the six states represented. As called by Governor Curtis Guild, Jr., of Massachusetts, its purpose is to "consider the common needs of all, especially in the way of speedy enactment of uniform laws." Among the leading subjects under consideration are: The preservation and cultivation of forests; the safe-guarding and protection of supplies of sea foods; the construction and use of highways, with especial reference to the regulation of automobiles. Tuesday afternoon's session, when the highways question was discussed, was addressed by Harold Parker C. E., delegate to Paris International Congress of Roadbuilding, and chairman Massachusetts Highway Commission; James H. MacDonald, president American Roadmakers Association, Commissioner of Highways of Connecticut; ex-Governor Nahum J. Batchelder of New Hampshire, Master of the National Grange, also read papers.

Movement to Compel Lighting of Parks.

An early victory in the campaign which the New Jersey Automobile and Motor Club is waging for the betterment of the automobile law was the securing of the passage of a resolution by the Newark Board of Trade on Saturday last, requesting the Park Commission to compel all vehicles entering the parks at night to carry a proper light. A further recommendation to the Commission was that the present Elwood avenue entrance to Branch Brook Park "be straighened and widened, that proper lights to insure safety be placed on this and other drives within the park, and that shrubbery which obstructs a clear view of the highway at this entrance be removed." This entrance has long been regarded dangerous.

Park Restrictions Lessened in Boston.

Non-skid treads for tires, including those having metal studs or wire points, have been restored to good standing in Boston's parks and boulevards through the action of the Metropolitan Park Commission in rescinding its rule, passed last March, prohibiting their use. Ever since the rule went into effect the motorists have made a strong fight for its annulment. The prohibition still prevails against the use of ropes or chains on the tires, but efforts will be made to have this also removed.

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BANISHES HOODOO WITH FIRE

Santa Rosa Man Celebrates the Election with an "Auto-de-Fe"—Consigns His Bewitched Car to the Flames.

Small boys in an exuberance of Election Day spirits have been known to burn up wood sheds, cellar stairs, roll-top desks, pianos and other articles of furniture, but when a full-grown man celebrates the victory of a presidential candidate by cremating a healthy, robust motor car, he bids fair to become an eligible applicant for the funny house or St. Vitus's Dancing Academy. Jake Luppold, Esq., of Santa Rosa, Cal., who had been "seeing things at night" was the gentleman to distinguish himself a few days ago by burning his car at the stake, even as the Maid of Orleans was burned some years back. Luppold did not do this because of any election bet he had made, but because he was of highly superstitious temperament, and really believed that the car was haunted and a "hoodoo." Seeing the machine blaze into a pile of ashes and twisted metal, the owner chuckled in much satisfaction and was thoroughly convinced that he had killed the hoodoo forever.

So happy was he over it that he celebrated the occasion by treating a number of his friends to a glorious banquet. In addition to killing the little black man of the motor, Luppold also vanquished the hop hoodoo. He said so himself. The hop hoodoo cashed in only incidentally and it was a clever trick, too, for the pyre was made with a bale of 1907 crop hops. The hop crop of that year, it must be explained, was a Jonah harvest.

Some weeks ago, when Luppold announced that he was going to sacrifice his car, he was flooded with letters from persons begging him to refrain from performing the wanton deed. Luppold was unmoved by all of these sentimental pleas and applied the torch with his own hands. The car was not insured.

"Tag-Day" Hold-up Strikes Motorists.

"Stung again!" that useful phrase, has a lot of hard work before it as the result of the invention of "Tag Day." As yet there have been only a few try-outs of "Tag Day," but these have been so successful from the perpetrators' point of view that the institution is likely to visit all parts of the country before it dies. As may be suspected it is a species of "hold-up" for charity and makes special provision for forced contributions from automobilists. In addition to small tags for pedestrians, which the latter have to pay for when the earnest charity workers pin the devices on their victims' lapels, there are prepared a goodly quantity of pennants in gay colors for attaching to motor cars. Eagle eyed watchers on the streets on "Tag Day" quickly see any machine that has not got its outfit of pennants, whereupon the driver is cheerfully stopped and made to "cough up" for a set. Unlike the church fair, however, only one contribution is called for, the pennants granting immunity for the rest of the day. In those places where the scheme has been tried, the local motorists, knowing the purposes for which the money was to be used, would contribute without demur, but transient tourists in some instances were less agreeable.

Eau Claire Gets a Motor Car Cheap.

Eau Claire, which is also called Hyatt Park and which is not far from Columbia, S. C., has gained an automobile even if it has lost a fine. A colored chauffeur, who a few days ago ran his machine at high speed through the center of town several times in spite of the newly posted ordinance calling for a 15 miles per hour maximum, was finally followed up and approached by the local constable. The negro was standing on the sidewalk when the officer came up, and scenting trouble he took to his heels. This did not disturb the constable, however, who calmly took possession of the car. The driver has not come back and the town is still holding the machine and wondering if the owner will ever appear to claim it.

Too Swift for the "Ambulance Chasers."

Chasing ambulances, for the purpose of getting the prosecution of damage claims that may be brought by the accident victims, has become a work requiring considerable stamina and sprinting ability since the introduction of the motor ambulance. The "runners" for damage claim lawyers have in the past been well able to keep up with the horse drawn vehicles, and even to board them and thrust the lawyer's cards in the victims' faces, but the motor ambulance is too fast, both in going to the scene of catastrophe and in returning to the hospitals. It is not easy therefore for the "runners" to find out either where the accident occurred or where the injured persons were taken, until it is too late for their purpose.

La Salle's One Horsepower "Automobile."

After considerable boasting about the automobile which was being built by the Young Men's Athletic Club, of La Salle, Ill., the machine itself has made its appearance. It is of one horsepower, the horse being placed in the center of an old wagon frame, but concealed by burlap curtains. A wringer in front constitutes the starting crank, and the canopy top is made of old umbrellas. All the other fittings and accessories are of the same order, and the club members propose to enter the machine in all automobile parades and races in the vicinity to which it is eligible.

HOODOO TAKES FIERY REVENGE

Danville Doctor Gets Full Benefit of the "13" Incubus—Rebukes His Machine and It Goes up in Fire.

Sailor superstition as to "hoodoos" attaching to certain ships has a parallel in the growing conviction in some quarters that not a few cars are unlucky. Among the recent converts to this belief is Dr. H. A. Greer, of Danvilee, Ill., who has reason to feel that a real, live "hoodoo" was on his machine. The car was ordered on June 13 and arrived on a Friday. Its registration number was 13,858, of which the last two digits make 13, as do the two next the last. The first accident occurred on the first Friday in July, when the machine collided with a street car, suffering considerable damage. By August it was fully repaired, and had two smashups in that month one on the first Friday and the other on the 13th. On September 13 it had another, followed the next Friday by more trouble, and coming to grief again on the succeeding Friday by a breakage of the steering gear, which almost resulted in catastrophe.

Afraid to trust himself in it on either a Friday or the 13th of the month, Dr. Greer left the car in the garage on Friday, October 2, although the evening before it had been reported as ready for service again. He used it on the following days without incident, however, until Thursday. On that day he addressed a few serious words to the machine, telling it that on the next day, Friday, it would have to stay locked up in the garage on account of its bad luck. In revenge the car carried him a good distance from home and then took fire, burning up so rapidly that the hose company which was called to extinguish it, found only a smouldering and worthless pile of junk. The unfortunate owner is going to get a new machine, and likewise a new registration number.

Melodramatic Rescue of Scared Motorists.

Daring rescues, in which the hero dashes out and stops a runaway horse driven by the heroine, have taken a more modern phase in which a blazing and uncontrolled motor car supplants the equine portion of the setting. Chicago had a demonstration of the latest thing last week when Frank Mack, a chauffeur, rushed out into the street and hopped aboard a runaway automobile that was spurting flames and in which four frantic women were screaming for help. The woman driving the machine had lost control of it through her excitement, but Mack quickly took her place and brought the car to a stop. The women jumped out and extinguishers soon conquered the fire.

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The Week's Patents.

896,362. Resilient Wheel. Samuel S. Childs, Bernardsville, N. J. Filed Jan. 28, 1908. Serial No. 413,046.

1. A resilient wheel comprising a body portion having a felly, a rim surrounding the felly at a distance therefrom and forming a space between them, pairs of members placed at intervals in the space, means for securing one member to the felly, means for securing the other member to the rim, a pair of resilient blocks placed between each pair of members and in line circumferentially of the wheel, the members having flanges to surround the blocks to prevent their displacement, and a boss on one of the members to extend part way between the blocks.

896,375. Starter for Explosion Engines in Self Propelled Vehicles. Delamere B. Gardner, Chicago, Ill. Filed Oct. 5, 1907. Serial No. 396,064.

1. The combination with a driving shaft having operative connection with an internal combustion engine and a driven shaft adapted to be connected to and disconnected from said driving shaft, of means for absorbing the momentum of said driven shaft and the parts connected therewith and storing the energy thereof while the driven shaft is disconnected from the engine, and means for transmitting such stored energy to said driving shaft to start the engine.

896,388. Carburetter. Kirk G. Johnston, New York, N. Y. Filed Aug. 12, 1907. Serial No. 388,151.

1. In a carburetter, an air lifted needle valve, a longitudinally movable guide for said needle valve stem, an adjustable stop for said needle valve stem in the said guide, and a lever attached to said movable guide and adapted to move same longitudinally varying amounts as and for the purpose set forth.

896,389. Friction Clutch. Kirk G. Johnston, New York, N. Y. Filed August 12, 1907. Serial No. 388,152.

1. In a friction clutch the combination of a driving member, upon the face of which are constructed a plurality of circularly disposed concentric cones; a pin or pivot projecting from the center of said driving member; a driven member, upon the face of which are constructed a plurality of circularly disposed concentric cones adapted to fit into the spaces between the similar cones on the said driving member, slidably mounted on the said pin; a pin or shaft projecting from the center of said driven member, and rigidly attached thereto; a plate member hermetically attached to the rim of the said driving member, and journaled on the projecting shaft from the said driven member, thus forming an oil-tight casing for the said members; and means of sliding the shaft projecting from the said driven member, thus engaging or disengaging the said members, substantially as and for the purpose set forth.

896,398. Incandescent Igniter for Gas Engines. James S. Lang, Boston, Mass. Filed June 9, 1905. Serial No. 264,443.

In an engine of the character specified having a combustion chamber, a gas inlet and exhaust passage, an igniter contained in said exhaust passage, a damper or check in said gas inlet passage, a spindle on which said damper or check is mounted, a lever fulcrumed upon said spindle and fixed thereto, and means connecting said lever with said igniter.

896,451. Safety Clutch for Starting Gas Engines. Walter S. Jones, Plainville, Conn. Filed Aug. 30, 1905. Serial No. 276,464.

1. In a starting device for motors, the combination of a starting shaft with a pair of clutch members for driving the said shaft forwardly, a starting crank connected with one of the said clutch members, a cylindrical friction surface for rotating forwardly with the said shaft, a tubular friction device mounted on the said cylindrical friction surface for carrying the shaft forwardly with the crank against a given load and then permitting the shaft to stop or turn backwardly without the crank, and means for continually binding the said tubular friction device upon the said cylindrical friction surface, to regulate the degree of frction that is constantly exerted thereby.

896,455. Exhaust and Signal Control. Jonathan D. Maxwell, Tarrytown, N. Y. Filed Aug. 23, 1907. Serial No. 389,793.

1. An exhaust and signal control, comprising a muffler having a direct and an indirect outlet adapted to maintain a constant back pressure in its contents, when discharging through the indirect outlet, a signaling means and means adapted to operatively connect the indirect outlet and signaling means, and to close either the direct or indirect outlet independently of the signal.

896,559. Air Inlet Regulator for Carburetters. Adele A. Longuemare, Paris, France. Filed May 27, 1904. Serial No. 210,100.

1. In an automatic air inlet regulator for carburetters the combination with a casing, a perforated cover closing one end of said casing, and a perforated fixed disc in said casing and parallel and adjacent to said cover, of a correspondingly perforated non-rotatable disc of a diameter equal to that of the interior of the casing and seated directly upon and parallel but relatively movable to said fixed disc, the solid portions of the movable disc covering and closing the perforations of the fixed disc and vice versa, a spring for pressing the movable disc upon the fixed disc, means for preventing lateral motion of the movable disc relatively to the fixed disc and a suction pipe connection between the casing and the motor, so that the quantity of air which penetrates is regulated by the suction of the motor acting on the upper surface of the movable disc to separate the two discs more or less from each other, substantially as set forth.

896,606. Automobile Horn. Robert Wright, Cleveland, Ohio. Filed Oct. 15, 1907. Serial No. 397,503.

1. A horn comprising a pipe having an opening in the side, a partition across the pipe forming a chamber in front of said opening and having an outlet thereto, a tongue slidable on the pipe, across said opening, the end of the tongue and the edge of the partition at the outlet being tooher.

896,624. Motor Vehicle. Walter Christie, New York, N. Y., assignor of one-half to W. Gould Brokaw, Archdale, N. C. Filed Feb. 12, 1908. Serial No. 415, 548.

1. In a motor vehicle, the combination with a hollow tubular cross casing provided with vertical bearing sleeves at opposite ends thereof and having rearwardly projecting lugs, bearing members having spindles fitted to the said vertical sleeves, wheels rotatably mounted upon said bearing members, a motor supported upon the said cross casing and transmission gearing including compensating means for connecting the said motor with the said wheels, of a main body portion including a frame work and a pair of rear wheels, the said frame work provided with forwardly projecting channel irons which are fitted to the rearwardly projecting lugs of the cross casing; and means for removably connecting the said lugs and channel irons together.

896,652. Gasolene Feed Chamber for Carburetters. Godfried J. Mayer, Buffalo, N. Y., assignor of five-twentieths to Donald R. Clark and four-twentieths to Herman Mayer, Buffalo, N. Y. Filed May 23, 1907. Serial No. 375,307.

1. A chamber having a cover removably threaded thereon and a lug on its outer face adjacent said cover, a spring bar secured at one end near the bottom of said chamber and having its other end extended above the cover and provided with an offset portion bearing against said cover, said bar being adapted to be sprung onto said lug to disengage said offset portion from the cover and hold it out of engagement.

896,661. Tire. William Porter, Los Angeles, Cal. Filed June 26, 1907. Serial No. 380,946.

A tire comprising a hollow ring formed from thin, perforated, wedge shaped pieces of material arranged radially and close together, each piece being cut out in the center and having its inner edge flat and provided with wings, the portion between said wings being separated by a wedge shaped opening extending from the central opening to the flat edge on a diagonal line extending across a line through the center of said piece substantially midway between said wings, a lining around within the tire having thin edges, one of which extends into the wedge shaped recesses of said pieces of material and the other extends across the joint between the other edge of the lining and the inner end of the severed wing portion, wire rings in the perforations of said pieces to bind them together, and an inflatable tube within the tire.

896,691. Change Speed Driving Gear. Arthur T. Collier, St. Albans, England, assignor of one-fifth to Harry Seymour Foster, London, England. Filed Aug. 20, 1907. Serial No. 389,412.

1. Change speed driving gear comprising a frame, a gear wheel rotatably mounted in said frame, worms gearing with said gear wheel and rotatably mounted in said frame, a shaft rotatably mounted adjacent to said frame, means for coupling said shaft to either of said worms, and means for bringing said frame into and securing it in the respective positions in which the several worms are coupled to sad shaft.

896,703. Vehicle Lamp. Charles Bergener, Rochester, N. Y., assignor to C. T. Hamm Manufacturing Company, Rochester, N. Y. Filed Sept. 13, 1907. Serial No. 392,625.

1. In a lamp or lantern, the combination of a flame chamber provided with a chimney, an upright wall surrounding said chimney and forming therewith descending air passage, an air chamber which incloses the upper portion of said wall and has a closed top which extends from said chimney outwardly over said wall, said air chamber being open at its lower end for the admission of air and said upright wall having within the upper portion of said air chamber a communication through which the air flowing upwardly through said chmber passes inwardly into said descending passage, and a deflector which is arranged around said surrounding wall below the open lower end of said air chamber and deflects the air up-

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wardly into said chamber, substantially as set forth.

896,728. Thread Grip for Vehicle Tires. Carlton L. Hoff, York, Pa. Filed March 1, 1907. Serial No. 360,025.

1. A tread grip for vehicle tires embodying a plurality of substantially parallel tread chains extending longitudinally of the tire and formed of twisted links and straight links at spaced intervals, links connecting the straight links of adjacent chains, side chains and links connecting said side chains and edge tread chains at spaced intervals and formed of twisted links and links connecting adjacent chains formed with eyes twisted with relation to each other to engage the side bars of the twisted chain links at substantially right angles thereto.

896,739. Transmission Gearing. William C. Mayo and John Houlehan, El Paso, Tex., assignors of one-third to George E. Briggs, Barstow, Tex. Filed Sept. 5, 1907. Serial No. 391,525.

1. In a transmission gear, an annular gear wheel having an annular ball race on each face, a pinion meshing with the gear wheel, a casing inclosing the gear wheel and pinion and provided with an annular ball race corresponding to one of the ball races of the annular gear, a removable cover for the casing adjustably connected thereto, and an annular series of balls seated in the ball races on each side of the gear wheel and in the respective ball races on the inner faces of the casing and cover.

896,844. Steering Gear. Theophilus Mayhew, Detroit, Mich. Filed Jan. 2, 1908. Serial No. 408,979.

1. In a steering gear having a casing, a rotatable steering wheel shaft secured therein against longitudinal displacement, and a nut for operating a steering knuckle longitudinally reciprocable on the shaft, means yieldingly movable transversely to the shaft adapted to automatically maintain constant endwise pressure on the nut and on the shaft.

896,850. Puncture Closing Device. Stanley Mundey, London, England. Filed Sept. 30, 1907. Serial No. 395,273.

1. A puncture closing device for air chambers comprising in combination a flexible plug having a reduced neck portion and an extensible ring adapted to surround said neck portion to grip air chamber material between itself and said neck.

896,863. Canopy Top for Vehicles. John E. Smith, Atlanta, Ga. Filed March 23, 1908. Serial No. 422,666.

1. The combination with a vehicle body of a rigid, non-foldable top; means for flexibly supporting the top upon the body; and means for limiting the movements of the top relative to the body.

896,897. Vehicle Wheel. Herman Cramer, San Francisco, Cal. Filed Dec. 13, 1905. Serial No. 291,590. Renewed May 27, 1908. Serial No. 435,254.

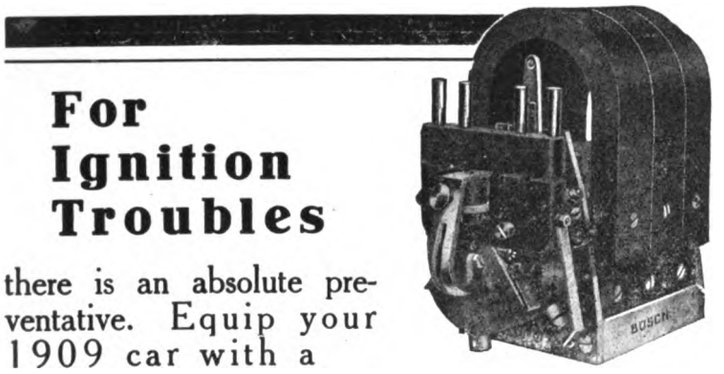
1. In a vehicle wheel, a socket at the outer end of each spoke, a block of rubber in each cocket provided with a tapering perforation, a tire surrounding the wheel, and inwardly extending tapering projections on the tire for entering said perforations.

897,023. Packing for Gas Engine Valve Stems. Alexander K. Schaap, New York, N. Y., assignor to Eva C. Schaap, Brooklyn, N. Y., doing business as Schaap Automobile Company, a Firm. Filed Aug. 8, 1907. Serial No. 387,620.

1. The combination with a four cycle gas engine valve stem and guide, of a packing device encircling the stem and engaging the end of the guide to effect a hermetic connection, and means for pressing said packing yieldingly into active position, such means applying increased pressure during the opening of the inlet valve.

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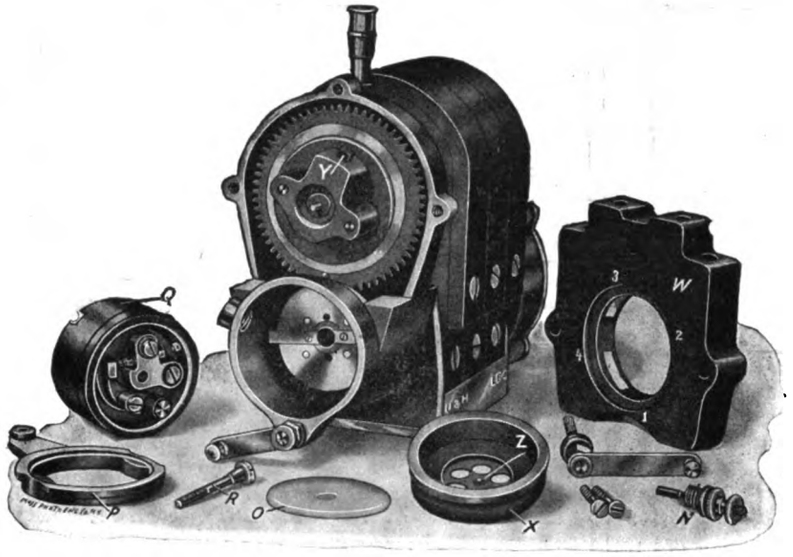
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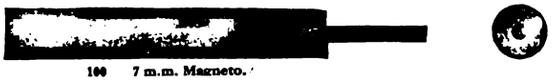
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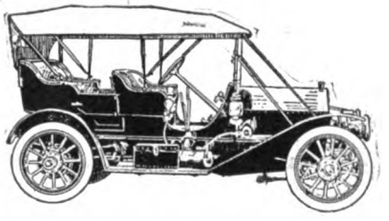
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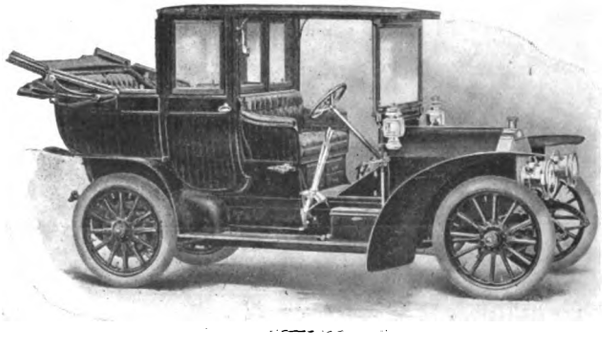
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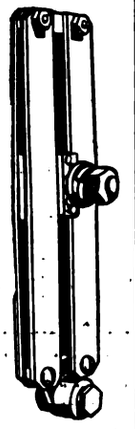
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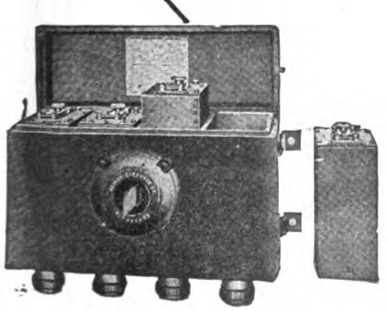
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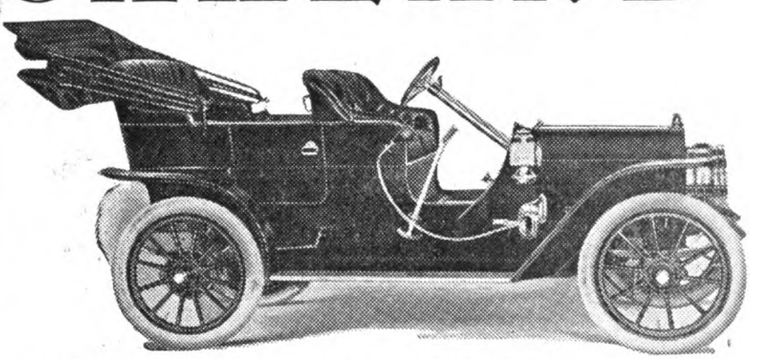


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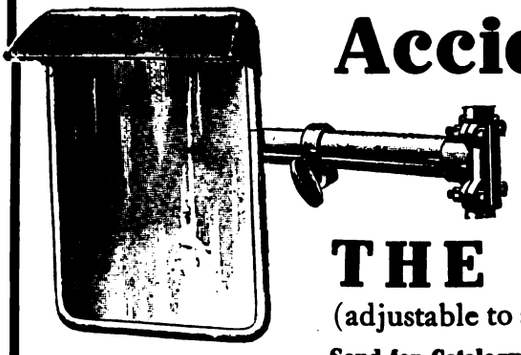
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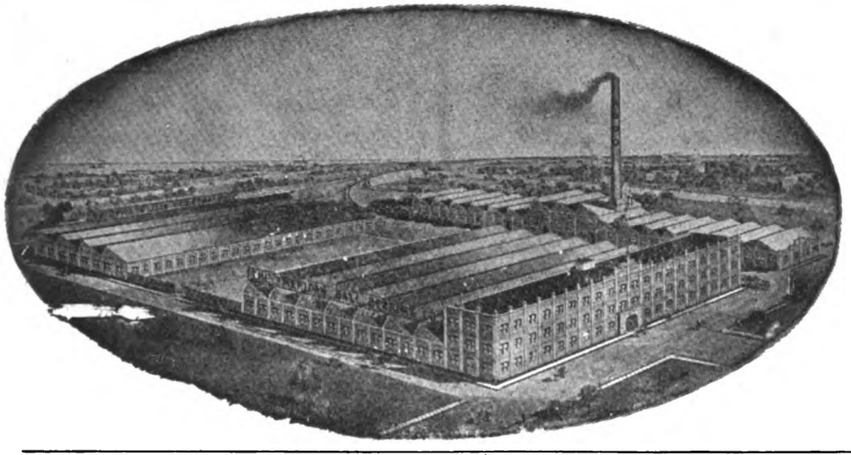
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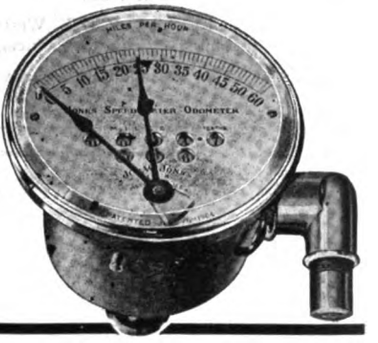
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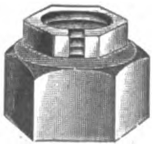
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572 Mitchell St., Racine, Wis.
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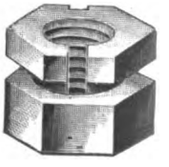
ESTABLISHED 1844.
SCHRADER
UNIVERSAL VALVES
TRADE MARK REGISTERED APRIL 30, 1895.
The Standard American Valves for Automobile, Bicycle & Vehicle tires
Manufactured by
A. SCHRADER'S SON, INC.
28-32 Rose St. New York, U.S.A.

Studdard-Dayton
ONE Quality for ALL Models
ONE Price for ALL Buyers
Write for 1909 Catalog.
THE DAYTON MOTOR CAR CO.,
Dayton, O.



A Necessity On Automobiles—WHAT?
COLUMBIA LOCK NUTS

CANNOT shake loose. They add an important factor of safety and give a feeling of security. Columbia Lock Nuts are the best kind of accident insurance. Used by most makers of the best cars and by leading railroads, etc. Send us a two-cent stamp, size and thread of the bolt, and we will forward a Columbia Lock Nut for it.



COLUMBIA NUT & BOLT CO., Inc., Bridgeport, Conn.

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WHITLOCK RADIATORS
INTAKE, EXHAUST AND WATER PIPES
Whitlock Coil Pipe Co. Hartford, Conn.



Volt Ammeter $5.00. Ammeter only, $3.50

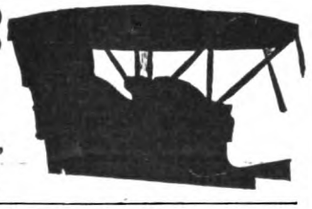
How Are Your Batteries?
A CONNECTICUT VOLT AMMETER WILL TELL YOU
Guaranteed, and the price is right, send for catalogue and trade discounts.
CONNECTICUT TELEPHONE and ELECTRIC CO., Inc.
Meriden, Conn.

When you sum it all up, Splitdorf Ignition is the Best.

MORGAN & WRIGHT TIRES ARE GOOD TIRES

The Acme "JUSTIFIES ITS NAME"
THE ACME MOTOR CAR CO.
Reading, Pa.

SPRINGFIELD TOP (Pat. 1895)
Aluminum Bodies
SPRINGFIELD METAL BODY CO.,
366 Birnie Ave., Springfield, Mass.





Steel Tires
Full of Air.
Tire expense cut in two.
Cannot Blow Out, Rim Cut or Puncture.
As Flexible as Rubber Anti-Skid.
That part of a tire with a blowout or a rim cut in it will last longer than any other part if encircled by a few sections of steel.
Thousands in use.
Kimball Tire Case Co.
172 Broadway
Council Bluffs, Iowa

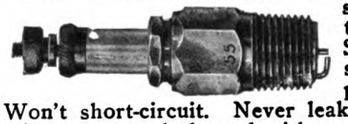
WE WILL NOT
accept your contract unless we can give you the delivery you require. We will not accept more contracts than we can fill with proper attention to each. We make Pressed Steel Frames and Automobile Stampings.
THE HYDRAULIC PRESSED STEEL CO.,
Cleveland, Ohio.

"Firestone"
SIDE-WIRE SOLID MOTOR TIRES
THE WORLD'S STANDARD
FIRESTONE TIRE & RUBBER CO., Akron, Ohio



DOW TUBES
The Best Tubes Ever Manufactured.
Are the most economical. Do not deflate when punctured.
DOW TIRE COMPANY,
2000 Broadway, New York.
889 Boylston St., Boston, Mass.

The "Gotham" STA-RITE will end your spark plug troubles. Soot can't stick to the porcelain. Won't short-circuit. Never leaks. Can be taken apart and cleaned with ease. Of dealers, or direct, $1.00.



THE R. E. HARDY CO., 25 W. 42d St., New York.

It is not possible for any chain to be better than
BALDWIN CHAINS
BALDWIN CHAIN & MFG. CO.,
Worcester, Mass.

MICHELIN
FRANCE. ENGLAND. ITALY. AMERICA
MICHELIN TIRE COMPANY
MILLTOWN, N. J.

Studebaker
Gasoline and Electric—for Pleasure and Business
Studebaker Automobile Co. South Bend, Indiana

THE MOTOR WORLD PUBLISHING COMPANY
154 Nassau Street, New York
Enclosed find $2.00 for which enter my subscription to
The Motor World
for one year, commencing with the issue of _____
Name _____
Address _____

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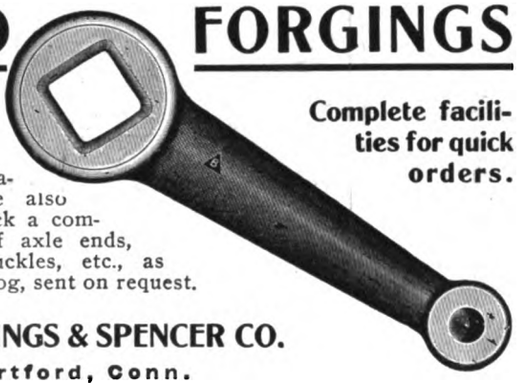
STEPNEY
SPARE WHEEL

Every motorist should carry a "Stepney" and avoid all troublesome delays caused by punctures and blowouts. Write for Catalogue D.

The Only Cure for Tire Troubles

DISTRIBUTORS—AMERICAN STEPNEY SPARE WHEEL CO., 1773 Broadway, New York Ciy. AUTO SPARE WHEEL CO., 22d, Oak and Gillham Blvd., Kansas City, Mo. EXCELSIOR SUPPLY CO., 1436 Michigan Ave., Chicago, Ill.

1909 FORGINGS



Complete facilities for quick orders.

Send us your specifications. We also carry in stock a complete line of axle ends, steering knuckles, etc., as per our catalog, sent on request.

THE BILLINGS & SPENCER CO.
Hartford, Conn.

"Oldest Makers in America"
$3000

HAYNES

Kokomo, Ind.

30,000 MILES WITHOUT ADJUSTMENT.
THESE PARSONS WHITE BRASS BEARINGS RAN THAT DISTANCE IN A PACKARD CAR. THEY ARE BACK IN THE CAR WITHOUT EVEN BEING SCRAPED
STILL RUNNING RUNNING STILL.



THE Wm CRAMP & SONS SHIP & ENGINE BUILDING Co
PHILADELPHIA, PENNA.

ALUMALOYD SHEETS

For Automobile Bodies, Dashes, Guards, Bonnets, Battery Boxes, Drip Pans, Mufflers, Etc.

STRONG—DURABLE
SCALELESS—RUSTLESS
SMOOTH—PAINT ADHERES FIRMLY

A Metal That's A Time and Money Saver

THE STARK ROLLING MILL COMPANY, CANTON, OHIO

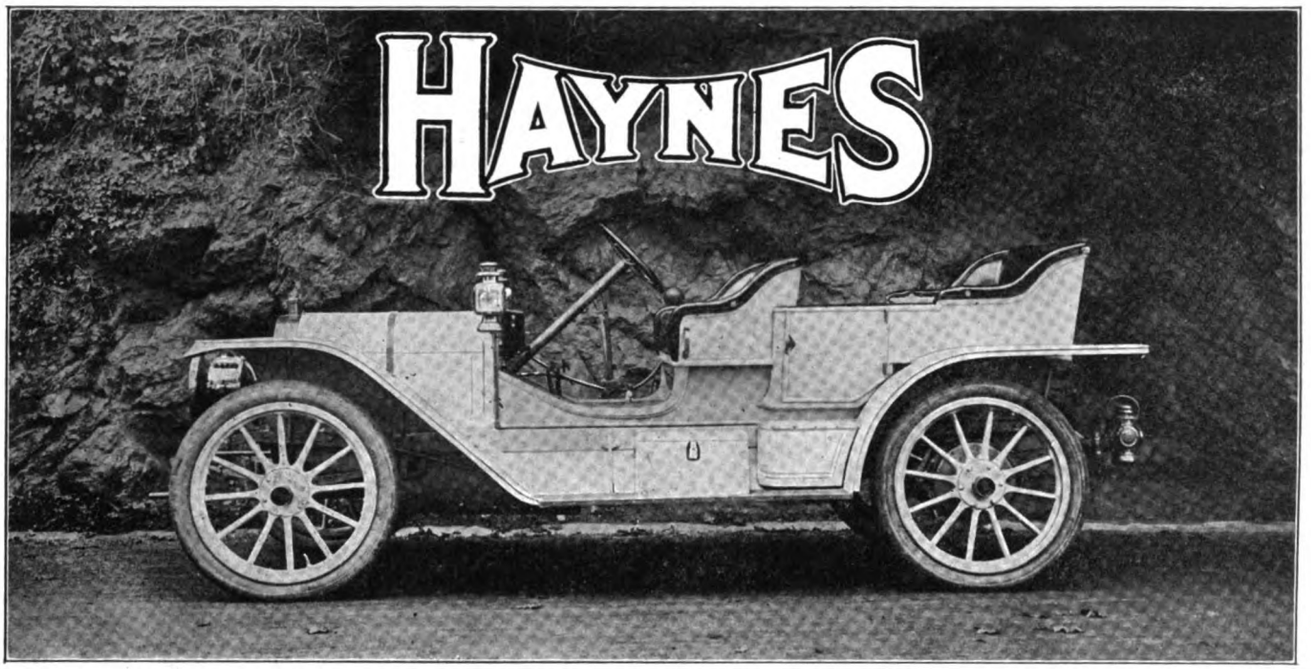
Model B—Brush Runabout

A CAR OF SIMPLE DESIGN MADE WELL
NOT A COMPLICATED DESIGN MADE CHEAPLY

Its records and the opinions of its users speak more loudly than self praise. Agencies for 1909 are being closed rapidly. Much good territory still open.

BRUSH RUNABOUT COMPANY, Detroit, Mich.

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1909 Model 40 H. P. Toy Tonneau, **$3,000.**

A Car For Live Agents To Handle

THERE are other cars on the market that apparently offer more for less money than the Haynes 40 H. P. model at $3000. But their lack of the Haynes steel alloys, the improper simplification of certain parts, the unwise short-cuts in manufacturing generally mean frequent visits to the repair shops.

There is a lot of time, money and patience wasted in small repair jobs of this kind.

Every Haynes owner has the satisfaction of knowing that his car will "stand-up."

And there are Haynes owners everywhere—that is the advantage that age gives us.

A "new one" in the industry has no long established clientele—no good will—no old friends. But the Haynes is the ***oldest American automobile,*** dating from 1893, when Elwood Haynes built the first gasolene horseless carriage in America.

And its friends in every state are legion. For the Haynes car "makes good." Look over the record of all the favorable Reliability and Endurance Runs, or Sealed Bonnet Contests and you'll find the Haynes always has a perfect score.

AGENTS WANTED

We have some desirable territory open this year for the right man. Write at once for particulars.

SPECIFICATIONS OF THE HAYNES FOR 1909

Motor—4 cylinder, 4¾ by 5.
Water Cooled, with very large water jacket.
Drive—Shaft drive, with Haynes roller-pinion and sprocket at the rear axle, which minimizes friction and side thrust and eliminates noise entirely.
Clutch—Haynes patent contracting steel band upon bronze drum.
Carburetor—Latest type Schebler, water jacketed.
Lubrication—Gear driven McCord oiler.
Ignition—Bosch Magneto; also battery system with single coil and separate set of plugs.
Bearing—Roller bearings used throughout.
Tires—36 by 4 all around.
Transmission—Selective type, three speeds forward and reverse. Ratchet device makes gear stripping impossible.
Wheel base—112 inches. Tread—56 inches.
Body—Touring car for five or seven, or toy Tonneau, $3,000. Runabout or Hiker type, $2900.
The Hiker type consists of two bucket seats with large gasoline tank on rear. Equipment includes Prest-O-Lite tank, baggage rack and tire holders.

HAYNES AUTOMOBILE CO., Kokomo, Indiana

Oldest Automobile Manufacturers in America.

NEW YORK, 1715 Broadway — Member A. L. A. M. — CHICAGO, 1702 Michigan Ave.

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Continental TIRES

WIN

First Grand Prize Race

SAVANNAH

The Lancia, only car with Continental equipment, never changed a single tire.

"The best is none too good."

CONTINENTAL CAOUTCHOUC COMPANY

Home Office : 1788-80 Broadway, N. Y. C. **J. M. GILBERT, Gen'l Mgr.**

BRANCH : 226 Jefferson Avenue, Detroit

DISTRIBUTING AGENTS:

Acme Rubber Co., 925 Jefferson Ave., Toledo, O.
Centaur Motor Co., 59 Franklin St., Buffalo, N. Y.
Excelsior Supply Co., 237 Randolph St., Chicago, Ill.
Jas. L. Gibney & Bro., 211 N. Broad St., Philadelphia, Pa.
Martin-Evans Co., 1186 Bedford Ave., Brooklyn, N. Y.
Chas. E. Miller, 1829 Euclid Ave., Cleveland, O.
Neustadt Automobile & Supply Co., 3948 Olive St., St. Louis, Mo.
Plant Rubber Co., 322 First Ave., North, Minneapolis, Minn.
Revere Rubber Co., 700 Baronne St., New Orleans, Louisiana.
Sammis & Downer Co., Huntington, L. I.
The Post & Lester Co., 821 Boylston St., Boston, Mass.
The Post & Lester Co., 175 Asylum St., Hartford, Conn.
Western Continental Caoutchouc Co., 1438 Michigan Ave., Chicago, Ill.

REPRESENTATIVES EVERYWHERE YOU CAN MOTOR

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The Warner Instrument Co.
of Beloit, Wis.

Announce their Masterpiece—



The 1909 AUTO-METER

The illustration shows the form of the new instrument. The chaste simplicity and artistic beauty of the design is self-evident. It harmonizes perfectly with other dash equipment and gives tone to any car.

The Speed Recording mechanism is unchanged. It was perfection before. Improvement was impossible.

The Odometer is now of our own construction. Therefore, as simple, durable and dependable as the Auto-Meter itself. The figures are so large and distinct that they can be read from the seat.

The Season dial registers 100,000 miles. Other odometers register 10,000 miles only.

The Trip dial registers 1,000 miles. Other odometers register 100 miles only.

The Trip dial-set is simplified. A single turn of the button resets to zero.

Those who have used any kind of Speed Indicator will realize what these points mean to them.

The entire dial is illuminated by concealed electric bulb. The pressure of a button makes speed and distance plainly readable in the darkest night.

The Shaft Drive is now made simpler and stronger than ever before. We use special steel, heat treated, in its construction. This was really not required. We have seldom had shaft or other troubles not caused by carelessness or accident. We changed simply because modern methods had produced something better than we had used before.

The Auto-Meter is constructed throughout of the best materials procurable. It is made and put together by the same workmen who are engaged in making Chronometers and other expensive instruments of precision.

The tests and inspection of each instrument is so rigid that variations from absolute accuracy are only possible when there are variations in tire diameters. This amounts, on the average, to less than 100 feet to the mile.

For these reasons the Warner Auto-Meter has always been specified by those who can afford ***the best,*** and with whom anything short of absolute perfection and unfailing accuracy is of no use whatever.

The Warner Instrument Company

Factory and Main Offices : 320 Wheeler Avenue, BELOIT, WIS.

NEW YORK, 1902 Broadway
BOSTON, 925 Boylston St.
PHILADELPHIA, Cor. Broad & Race
PITTSBURG, 3432 Forbes St.
CLEVELAND, 2062 Euclid Ave.
BUFFALO, 722 Main St.
DETROIT, 239 Jefferson Ave.
CHICAGO, 1305 Michigan Ave.
INDIANAPOLIS, 330½ N. Illinois St.
ST. LOUIS, 3923 Olive St.
SAN FRANCISCO, 550 Golden Gate Ave
LOS ANGELES, 1212 S. Main St.

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The Value of the AJAX 5,000 Mile Guarantee

is known and appreciated by every individual **AJAX** user. It also finds substantial recognition at the hands of the automobile manufacturer who knows better than any one how vital the tire problem is to the motorist.

No wonder, then, that careful buyers and conservative manufacturers like the **Maxwell-Briscoe Motor Comapny** give to the **AJAX** the largest tire order ever received by a single tire firm.

Incidentally they give to their customers the benefit of the **AJAX five-thousand mile guarantee**, which insures the user against tire worry and gives him a security that no other tire maker can afford.

MAXWELL-BRISCOE MOTOR CO.

MANUFACTURERS OF "The Maxwell"

NO. 2146-T
THIS NUMBER MUST APPEAR ON INVOICE

TARRYTOWN, N. Y., 9/19, 1908.

Ajax-Grieb Rubber Co.,
57th St. & Broadway, N.Y.C.

PLEASE SHIP US WITHIN ... TO ... VIA

4000 Sets 28" x 3" Ajax Tires Complete.
1500 " 30" x 3" Ajax Tires Complete.
1000 " 30" x 3-1/2" Ajax Tires complete.
750 " 32" x 4" Ajax Tires complete.

Shipment to be made to our several factories, in accordance with instructions to be given later.

MAXWELL-BRISCOE MOTOR CO.,
A. R. Connelly
PURCHASING AGENT

ACCEPTANCE OF THIS ORDER IMPLIES AN OBLIGATION TO FILL OUT AND RETURN FORM BELOW.

The World's Largest Tire Order

Naturally given to the **AJAX**. Every one of the 29,000 Tires is accompanied by our 5,000-mile Guarantee.

Would you insist upon incurring tire hazard when you can buy **AJAX** tires and **AJAX** tire insurance at the same price at which users of other tires buy tires alone, without any guarantee?

Think this over and write for a copy of our 5,000-Mile Guarantee, also for **"AJAX,"** a magazine published in the interest of makers, sellers and users of rubber tires and kindred products of the rubber industry.

Ajax-Grieb Rubber Co.

Factories: Trenton, New Jersey.

Branches

NEW YORK CITY—N. E. Cor. 57th Street and Broadway.
BOSTON—819a Boylston Street.
KANSAS CITY, MO.—1422 Grand Avenue.
DENVER, COLO.—1529 Cleveland Place.
SEATTLE—1102 Broadway.
SAN FRANCISCO—438 Market Street.
LOS ANGELES—1038 South Main Street.
PHILADELPHIA—316 North Broad Street.
DETROIT—743 Woodward Avenue.
CHICAGO—1418 Michigan Avenue.

THE SELDEN CAR FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

$2000

Touring Car **Roadster**
Limousine **Landaulet**

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.

ROCHESTER, N. Y.

Member A. L. A. M.

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The Beautifully Constructed

1909 line of Stewart Speedometers, as compared with previous efforts in speedometer manufacture is like comparing

the Feeble Light of a Lowly Candle as Against the Powerfnl Rays of a Modern Searchlight

Our Model 11, operated on the multipolar induction principle represents the highest achievement in speedometer construction. **Simplicity in design; workmanmanship without equal; embodying every refinement; all wearing parts hardened and polished; costly jeweled bearings; contained in a beautifully finished case; dial silver finished; scale three times as large as ordinarily used; accurate to a degree never before deemed possible; eqnipped with 10,000-mile odometer and the new three-dial automatic resetting trip register.** Last, but not least, it is operated by means of **the famous Stewart link flexible shaft, equipped with the Stewart patent swivel joint, without which no speedometer can continue to give always on the job service.**

The Price of this Beautiful Model—$25.00

Guaranteed Absolutely for Five Years

SEND FOR OUR NEW 1909 CATALOGUE

Stewart & Clark Manulacturing Company

509 Diversey Boulevard, Chicago, Ill., U. S. A.

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Overland

For Simplicity
For Reliability
For Appearance
For Comfort and
For Noiselessness

THE OVERLAND IS UNEXCELLED

The Most Complete Line in America

Model 30 Roadster (3-pass.), Planetary transmission,	$1,250
Model 30 Roadster (4-pass.), Planetary transmission,	1,300
Model 30 Coupe, Planetary transmission,	1,650
Model 31 Toy Tonneau (4-pass.), Planetary transmission,	1,400
Model 31 Tonneau (5-pass.), Planetary transmission,	1,400
Model 32 Toy Tonneau (4-pass.), Selective transmission,	1,500
Model 32 Tonneau (5-pass.), Selective transmission,	1,500
Model 34 Willys-Six Roadster or Tourist,	2,000

OVERLAND AUTOMOBILE CO., INDIANAPOLIS INDIANA

MORGAN & WRIGHT TIRES

Are Strong At Every Point

The fabric used is given the most rigid tests to avoid the possibility of weak spots.

In building the tire, special stress is laid upon the care that shall be given to details (every tire builder is required to put his mark on tires made by him as a check against careless work).

And the curing process employed by us guarantees an even cure, leaving no overcured places to crack after the tire has run a few miles.

There is no method of making friends equal to the method of making good.

MORGAN & WRIGHT, DETROIT

BRANCHES, AGENCIES OR DEALERS EVERWHERE

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BOSCH MAGNETO

Wins BOTH Savannah Races

This performance positively demonstrates that the Bosch Magneto is the best and most reliable system of ignition in the world.

It is **"THE"** Magneto chosen by manufacturers, drivers and owners who desire PERFECT IGNITION.

In the Grand Prize

18 out of the 20 cars entered were equipped with Bosch Magneto

1 Fiat,	**Bosch Magneto**	10 De Dietrich,	**Bosch Magneto**
2 Benz,	**Bosch Magneto**	11 Simplex,	**Bosch Magneto**
3 Fiat,	**Bosch Magneto**	12 National,	**Bosch Magneto**
4 Benz,	**Bosch Magneto**	13 Lozier,	**Bosch Magneto**
5 Clement-Bayard,	**Bosch Magneto**	14 Itala,	**Bosch Magneto**
6 Renault,	**Bosch Magneto**	15 Benz,	**Bosch Magneto**
7 Clement-Bayard,	**Bosch Magneto**	16 Itala,	**Bosch Magneto**
8 Itala,	**Bosch Magneto**	17 Chadwick,	**Bosch Magneto**
9 Fiat,	**Bosch Magneto**	18 Renault,	**Bosch Magneto**

In the Light Car Race

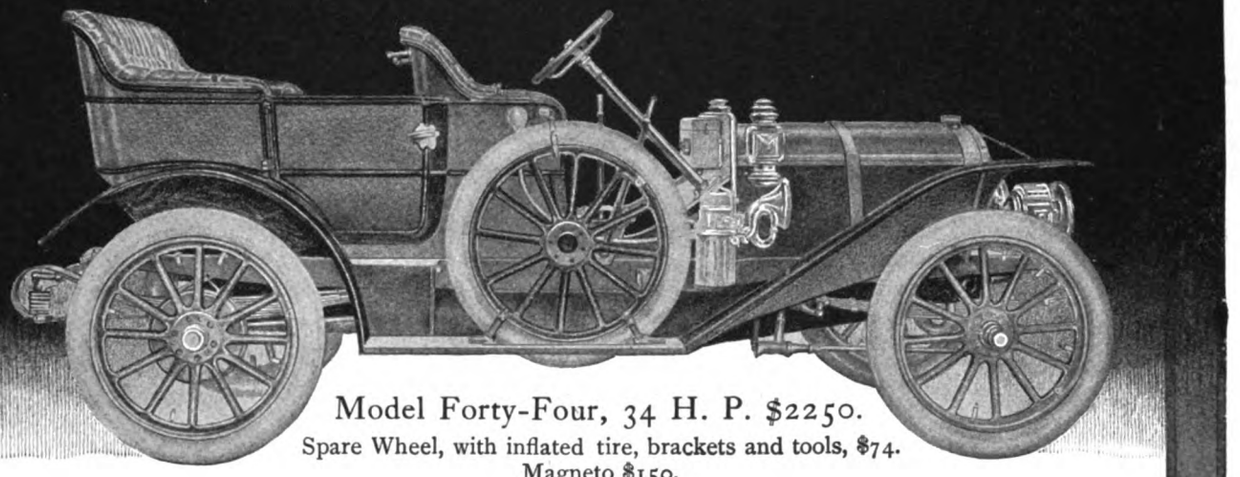
12 out of 15 cars entered were equipped with Bosch Magneto

1 Lancia,	**Bosch Magneto**	8 Maxwell,	**Bosch Magneto**
3 Chalmers-Detroit,	**Bosch Magneto**	9 Maxwell,	**Bosch Magneto**
4 Buick,	**Bosch Magneto**	10 Buick,	**Bosch Magneto**
5 Isotta,	**Bosch Magneto**	11 S. P. O.,	**Bosch Magneto**
6 Maxwell,	**Bosch Magneto**	12 Chalmers-Detroit,	**Bosch Magneto**
7 Maxwell,	**Bosch Magneto**	15 Chalmers-Detroit,	**Bosch Magneto**

BOSCH MAGNETO COMPANY

160 W. 56th St., New York **Chicago Branch: 1253 Michigan Ave.**

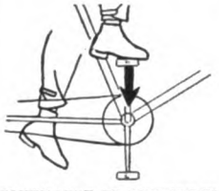
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Model Forty-Four, 34 H. P. $2250.
Spare Wheel, with inflated tire, brackets and tools, $74.
Magneto $150.

THE OFFSET CRANK SHAFT

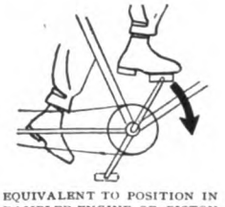
Most automobiles develop sufficient power when they are traveling at a *high* speed. The greatest need is for power at *slow* engine speeds. Rambler Model Forty-Four can be operated smoothly and steadily at *three* miles an hour on *high* gear. This is because of the offset crank shaft.



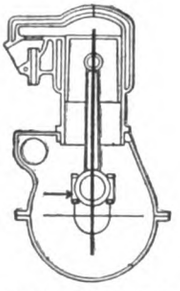
EQUIVALENT TO POSITION IN ORDINARY ENGINE OF PISTON AT EXPLOSION CENTER.

Rambler

The Car with the Offset Crank Shaft

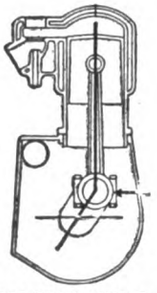


EQUIVALENT TO POSITION IN RAMBLER ENGINE OF PISTON AT EXPLOSION CENTER.



ORDINARY ENGINE. POSITION OF PISTON AT EXPLOSION CENTER. EXPLOSION EXERTS NO TURNING EFFORT TO CRANK SHAFT. THE DEAD CENTER WASTES ENERGY. SHOCK FALLS ON BEARINGS.

How the Offset Crank Shaft is an Advantage



RAMBLER OFFSET CRANK SHAFT. POSITION OF PISTON AT EXPLOSION CENTER. FULL POWER OF EXPLOSION EXERTS TURNING EFFORT TO CRANK SHAFT. DEAD CENTER ELIMINATED. NO ENERGY WASTED. NO SHOCK TO BEARINGS.

Seven passenger model, forty-five horse power with offset crank shaft, $2500. Other models, $1150 to $2500. Write for catalog describing in detail Rambler offset crank shaft, Spare Wheel, straight line drive and other exclusive features of the new Rambler models.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory, Kenosha, Wis.

Branches and Distributing Agencies:

Chicago, Milwaukee, Boston, New York, San Francisco. Representatives in all leading cities.

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, December 3, 1908. No. 10

MAKERS POOL PATENTS ON COILS

Holding Company Formed to Issue Licenses and Prosecute Infringements—Action Follows Litigation.

Claiming to hold basic patents affecting certain valuable features of spark coil construction, a holding and licensing company has been formed which proposes to assert its position in the field and to force all the makers and importers of coils in the United States to pay tribute either in license fees or infringement recoveries, where their devices come within the scope of the letters patent which it has acquired. The formation of the new corporation, which is to be known as the Unit Coil Co. and which will have its headquarters at 15 Exchange place, Jersey City, N. J., follows the amicable settlement of an infringement fight between the Autocoil Co., of Jersey City, and the Connecticut Telephone and Electric Co., of Meriden, Conn.

As a means of compromising the litigation, the patents involved have been turned over to the new company, and in the future both the Autocoil Co. and the Connecticut company will operate under license from the Unit Coil Co. Of the patents which the latter now holds, and under which it will act, the most important are No. 878,435, of February 4, 1908, to Richard Varley, and No. 884,116, of April 7, 1908, to E. Q. Williams. These patents, it is declared, "cover every practical form of removable unit induction coil," and the immediate prosecution of unlicensed manufacturers, users, and vendors is threatened.

Royal Plant Bought by New Company.

Transfer of the business, plant and good will of the Royal Motor Car Co., of Cleveland, O., has been made to a newly organized company, which will be known as the Royal Tourist Car Co., and which will continue to make the Royal Tourist cars. Judge Taylor, of the United States District Court, at Cleveland, granted the necessary sanction on Tuesday, permitting the receivers to complete the transaction. The officers of the new company include George J. Dunham, of Boston, president; N. E. Calhoun, of Cleveland, vice-president and treasurer, and Clifford Fuller, of Cleveland, secretary.

Glover New President of Corbin.

Having resigned as president of the Corbin Motor Vehicle Corporation, Howard S. Hart has been succeeded by President Charles Glover, of the Corbin Screw Corporation, of New Britain, Conn. The latter does not relinquish the presidency of the Corbin Screw Corporation in assuming his new duties, but it is expected that his energy and initiative, which have contributed so much to the success of the Screw company, will give a new impetus to the production of Corbin cars. In addition to great business experience and his proved executive ability in large affairs, Glover is prolific in inventive and mechanical genius, a large part of the machinery used by the Corbin Screw Corporation being of his origination. Both the design and the manufacturing methods employed in connection with the Corbin models will hereafter be benefitted by his knowledge.

Peerless to Build on Broadway.

Property for its New York City branch has been purchased by the Peerless Motor Car Co., of Cleveland, O., on upper Broadway. The site is of L shape, having a Broadway frontage of 70 feet, abutting that of the Baptist Tabernacle, on Fifty-sixth street. The extension gives a 25-foot outlet on Fifty-seventh street. An eight story fireproof building will be erected.

Hadley Resigns from Garford.

C. E. Hadley has resigned as general manager of the Garford Company, of Elyria, O. No successor will be appointed to the position, as the Studebaker Automobile Co., of South Bend, Ind., is now marketing the entire output. A. L. Garford will assume full control of the producing end.

HERRESHOFF PLANS ANNOUNCED

Output Will be Sold Only in the East—Mechanical Features of the New Cars are Disclosed.

Confirming the Motor World's exclusive report of the selling arrangements for the new Herreshoff Motor Co., of Detroit, Mich., it is announced that Harry S. Houpt, distinct from his relations with the Harry S. Houpt Co., of New York City, has signed a contract by which he will take the entire output of the Herreshoff cars, which are to appear about the first of January. For the coming season Houpt will place the output almost entirely in the East, and is at present arranging agencies in the Eastern cities. Not until 1910 will Western agencies be placed, by which time the output will be greatly increased.

The new car, designed by Charles F. Herreshoff, has a unit power plant incorporating the engine, fly wheel, clutch, and three-speed progressive change gear in one combination. Three-point suspension is featured, and the drive to the full floating rear axle is by tubular shaft, enclosed in a torque tube. The four cylinder engine features larve valves and has a set spark with both magneto and battery high tension ignition. Its speed is from 200 to 2,400 r.p.m., delivering 24 horsepower at the rear wheels. The weight is 1,600 pounds. Semi-elliptic springs are used in front and back, and the wheels carry 32x3½-inch tires. The standard type will sell for $1,500, but all types of body will be supplied.

Shawmut Seeks Plant in Reading.

The Shawmut Motor Co., of Stoneham, Mass., whose plant was destroyed by fire, is negotiating with the Business Men's Association of Reading, Mass., with a view to removing to that town. A suitable plant in Reading is at present idle, and if satisfactory terms can be arranged the Shawmut company will acquire it.

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FEW GAINS IN EXPORT MARKETS

Showing for October Reveals a Decline in Outward Shipments—The Record for Ten Months.

As an offset to Italian racing victories, the American makers are winning a modest commercial victory in Italy, according to the October export record, the shipments of American machines to that country having increased for the month to ten times what it was in the corresponding month last year. Gains are also indicated in British North America, the West Indies and Bermuda, Other Europe, and in Africa. The trade with Germany is practically the same as in October a year ago, while the remainder of the divisions all record losses. The month's showing discloses a serious falling off in the traffic with the United Kingdom, from $118,470 to $63,595, and France drops from $29,199 to $5,531. A decline from $23,865 to $3,519 occurs in the exports to South America, and Mexico registers a diminution from $44,772 to $30,366. The total of business for the month amounts to $213,775 as against $318,103 for October, 1907.

For the ten months ending with October the total is $2,296,503, as against $5,281,988 for the same period last year. Only two divisions show gains for the whole period. Other Asia and Oceania being credited with an increase from $77,514 to $115,097, and the division known as Other Countries showing a gain from $11,400 to $20,702. The remaining twelve divisions record losses, the most radical being those of Mexico, the West Indies and Bermuda, South America, and British Australasia. Holding its position of the largest single customer, the United Kingdom bought to the amount of $1,605,075 as against $1,622,261 during the ten months of 1907.

The record in detail is as follows:

	October		Ten Months Ending October		
	1907	1908	1906	1907	1908
Automobiles, and parts of	.....	.....	*$2,356,110	.....	.....
†Automobiles	$276,198	$165,837	‡1,379,935	$4,718,676	$3,971,406
Parts of	41,905	47,938	‡155,228	563,312	525,097
Exported to—					
United Kingdom	118,470	63,595	1,065,541	1,622,261	1,605,075
France	29,199	5,531	286,794	561,582	538,865
Germany	5,776	5,735	124,190	164,050	151,467
Italy	154	1,986	239,928	242,345	221,519
Other Europe	6,613	10,437	196,471	267,674	202,711
British North America	38,438	49,142	815,031	1,124,979	1,047,024
Mexico	44,772	30,366	613,453	557,454	249,036
West Indies and Bermuda	13,693	15,644	207,834	236,004	137,117
South America	23,865	3,519	122,382	208,919	101,677
British East Indies	239	170	26,922	28,950	23,657
British Australasia	16,421	15,785	106,476	170,917	75,165
Other Asia and Oceania	17,651	10,264	63,800	77,514	115,097
Africa	450	1,310	15,519	7,939	7,391
Other countries	2,362	291	6,932	11,400	20,702
Total	$318,103	$213,775	$3,891,273	$5,281,988	$2,296,503

* Figures are for six months, January to June, 1906. † Number not stated prior to July 1, 1906. ‡ Figures are for July to October, 1906, inclusive.

Elliott's Illness Results Fatally.

One of five well known men in the automobile industry to be stricken with typhoid fever at about the same time, following a lunch a few weeks ago at a New York hotel, A. B. Elliott, treasurer of the Witherbee Igniter Co., of New York City, succumbed to the malady on the 26th ult. His untimely death cuts short a most promising career. Educated at the University of Virginia, he became a graduate electrician from the training school of the General Electric Co., following which he was for a time in part charge of the electrification of the New York Central railroad's lines in New York City. This work he left, to engage in the field of gas engine ignition, and under his direction the development of the Witherbee specialties has been carried out. He was thirty-five years old, and had been married about a year.

Four of his companions at the lunch in question were taken with typhoid, and are confined with it at present. The list includes T. J. Wetzel, L. A. Hopkins, Herbert Lytle and John B. Rowland.

Tilden and Graham go to Prison.

Following the conviction of conspiracy in having promoted the Steel Ball Co., of Chicago, Ill., by means of fictitious notes of the Milwaukee Avenue State Bank, two officials of the company, William L. Tilden and Chauncey L. Graham, were sentenced, on the 27th ult. to a term of from one to twenty years in the penitentiary. The sensational failure of the bank exposed their flotation of $175,000 worth of the notes. The Steel Ball Co. was at one time prominent in introducing the Hill precision oiler.

Apperson Accepts Plans for Addition.

The Apperson Bros. Automobile Co., of Kokomo, Ind., has accepted plans for the construction of a large, three story building, which will add 50 per cent. to the factory floor space. Sales Manager Strout has doubled the number of Apperson dealers, and an increase is necessary.

ELECTRIC VEHICLE TO CONTINUE

Receivers Granted Permission to Manufacture for the Coming Season—Reorganization Plans Progressing.

Permission for the receivers of the Electric Vehicle Co., of Hartford, Conn., to continue the business of the concern until July 1, 1909, has been granted by Judge Lanning, of the United States Circuit Court, sitting at Trenton, N. J. The order permits the manufacture of 200 gasolene cars and 50 electric phaetons, on which Halsey M. Barrett and Henry W. Nuckols, the receivers, estimate a profit of $70,000. In their petition the receivers intimate that considerable progress has been made toward a reorganization, it being hoped that the unsecured creditors will assign their claims for 25 cents on the dollar. A majority of the creditors in this class, it is said, have agreed on this figure.

A financial statement accompanying the report to the court shows receipts from July 20, 1908, to November 24, to have been, including cash on hand at the first date, $427,339.86, and the total disbursements for the same period to have been $272,502.79, leaving a balance in banks amounting to $154,837.07. In addition to this balance the report says that there should be added about $20,000 in the hands of the receivers in Illinois, $8,000 in the hands of the New York receivers and $5,000 with the Massachusetts receivers, making in all a balance of $188,000 in round numbers. A large addition will be made to the balance, it is said, as soon as cars now under construction are sold.

Syracuse Aluminum not Burned Out.

Like the reports of Mark Twain's death, which he declared to be "greatly exaggerated," the account of the fire at the plant of the Syracuse Aluminum and Bronze Co., of Syracuse, N. Y., which appeared recently, overstated the case in indicating an almost total destruction of the buildings. Though threatening the foundry and causing a removal of all the patterns and many of the machines to places of safety, the flames were confined to the offices, where the furniture and many of the company's records were consumed. The plant itself is again in full operation.

Yule to Become a Racine Director.

When the reorganization of the Pope Mfg. Co. is effected and he receives his discharge as one of the receivers, George A. Yule will become a director and manager of the Racine Wagon & Carriage Co., a big $4,000,000 concern located in Racine, Wis., near the Mitchell Motor Car Co.'s works. Mr. Yule already has retired from the Bain Wagon Co., of which he was the directing head for many years.

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IMPORTERS WANT LOWER TARIFF

Their Demand Presented to the Ways and Means Committee—What American Makers Say in Opposition.

Pleading for a reduction in the tariff on imported automobiles from the present rate of 45 per cent. ad valorem to 30 per cent., Charles M. Sherrill, of New York City, representing the Importers' Automobile Salon, appeared before the Ways and Means Committee of Congress at Washington, on Friday last, 27th ult., in an effort to secure more advantageous conditions for the dealers in foreign machines. The importers' brief for lower tariff was presented in the course of a series of hearings which are being held in an effort to secure data for the framing of a bill for tariff revision to be reported from the committee. The session was the last of the hearings on the metal schedule, and though the subject of the automobile tariff is to be discussed fully at a later hearing, Sherill took advantage of the opportunity to present the importers' case. None of the associations of the American manufacturers was represented by counsel, but the importers' demand was emphasized by a telegram from Edward Denby, said to represent the Ford interests, which expressed opposition to an expected increase in the duty.

Counsel for the importers was in an aggressive frame of mind and made no bones about asserting that the American industry is in the hands of a trust, or, in his own words: "Instead of an 'infant industry' which is seeking protection at the hands of your honorable committe, it could more properly be called a trust." He credited the "trust" with an annual profit of 100 per cent.

"The American manufacturers of automobiles are divided into two large groups," he declared, "one the Association of Licensed Automobile Manufacturers, which is organized about the so-called Selden patents and the other the American Motor Car Manufacturers Association which does not own allegiance to the Selden patents. The Selden patent is an ingenious device to maintain a high price for automobiles among the manufacturers using the patent. Up till now all attempts to break this trust have failed because its foundation is a 'United States patent' which is a monopoly granted by the government."

The specific request was for a reduction in the duty from 45 per cent. to 30 per cent. ad valorem, claiming that the manufacture of foreign automobiles involved the use of much American machinery, besides bringing large amounts of business to the American carriage builders who, he said, make 90 per cent. of the bodies for foreign motor cars. All tires, too, he declared, were of American manufacture, while insurance and office work were all contributions to the "sphere of energy," of native Americans.

Though not actively represented at the hearing, the American manufacturers' interests are being cared for by the Motor Car Manufacturers' Tariff Commission, which is composed of the following representatives delegated by the Association of Licensed Automobile Manufacturers, the American Motor Car Manufacturers' Association and the National Association of Automobile Manufacturers: H. B. Joy, Packard Motor Car Company, Detroit, Mich.; A. L. Riker, Locomobile Company, Bridgeport, Conn.; L. H. Kittredge, Peerless Motor Car Company, Cleveland, Ohio; C. H. Stillwell, Franklin Motor Car Company, Syracuse, N. Y.; E. R. Thomas, Buffalo, N. Y.; R. E. Olds, Lansing, Mich., and Thomas Henderson, Winton Motor Car Company, Cleveland, Ohio.

In response to a notification of a hearing to be held on the subject of tariff revision as it affects the motor car industry in America, the commission has submitted a brief to the Ways and Means Committee, in which the relative conditions affecting the makers here and abroad are set forth at length. As showing the importance in American commerce of the companies directly represnted by the joint commission, it is prefaced by the statement that the market value of their products for the current fiscal year will exceed $37,500,000.

"These Companies represent on their pay rolls to-day 11,400 employees directly paid by them and at work within the four walls of the respective companies," continues the brief, "this is not taking into consideration the number of employees directly engaged in work being done for these companies outside of their own factories nor does it take into consideration the millions and millons of dollars' worth of material being purchased by these companies from American sources of supply. A further matter of interest might be that the direct aggregate of pay rolls of the companies represented by the gentlemen present is approximately $700,000 per month paid to American workmen. I merely state these facts as indicative of the importance to be attached by the committee to our industry, and these statistics refer only to the companies of those gentlemen present.

"The extent of the motor car industry at the present time is 253 manufacturers of motor vehicles, of which about 70 to 100 are marketing a product that is of importance to the trade. The value of the total American product for the year 1907 we place according to our best figures at upward of $100,000,000.

"The motor-car industry is in process of rapid development, as witnessed by the fact that this enormous industry has grown up in America in the past ten years. Motor cars for import now come under the Dingley tariff bill, Schedule C, paragraph 193, act of 1897—manufacturers of metal n. s. p. f.

"We specially and earnestly urge upon your committee a special separate classification for motor vehicles and parts thereof, account of the extent and importance of the Motor car industry, which did not exist when the Dingley tariff bill was enacted. It is essential that equitable and adequate tariff protection for our product be provided, owing to the existing conditions in Europe, where very large factories have already more than supplied the European demand and which now finds the foreign market overcrowded, and on account of this overproduction are making strenuous efforts to market their excess product in America by the reduction of prices for exportation and making special discounts, availing themselves of the so-called 'German concessions.' The tariff necessarily, in order to be a protection, must compensate for the difference in the cost of production in this country and Europe, the principal item of which is wages.

"It is to be specially noted that under the existing tariff the volume of imports of motor-cars has annually increased, though statistics show that the value has decreased yearly on account of reduced prices abroad and American competition, yet the number of cars imported has increased each year, and we wish to call particularly to the attention of your committee the strenuous efforts on the part of various manufacturers to introduce their goods into the American market—Racing, advertising, branch houses.

"Reduction in prices, undervaluations, special discounts, and every means which can be devised are being, and will be, used to unload on the American market the excess product of Europe produced on the low European wage basis. The only means left to the American manufacturer to offset a reduction of the tariff and increased imports is reduction of wages, contests with our employees, and all the attendant tribulatoins, which we are seeking to avoid.

"Further, it is clear that if the tariff were to be reduced on motor-cars, making in any degree the importation of them more easy, it would necessarily follow that the tariff on component materials comprising tremendous varieties of industries in this country would also have to be reduced."

Figures showing the important bearing of the wage question upon the relative costs of production of American and foreign built cars were presented thus:

"In eight of the leading and important American factories, employing 11,400 men, the average pay per year per person is as follows:

"Workmen, $755.05; commercial employees, $876.07; technical employees, $1,202.41.

"We have also the data covering the same information giving an average of 34 factories in Europe, employing 10,347 men. The average pay per year per person is:

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"Workmen, $306; technical employees, $602.50; commercial employees, $529; showing that the workmen in American factories are paid 2½ times approximately what they get for the same work in the same kind of factories in Europe. Technical employees in the American factories receive approximately twice what they do in Europe, and commercial employees receive about 2¼ times what they do in Europe. As a check on these figures compiled by our home factories it is to be noted that the statistical data gathered by Mr. James M. Carples, who has been abroad gathering data on the subject of rates of wages for us, exactly substantiate the above figures."

Comparing the relative wages in cents per hour by various artizans in France, Austria and Italy, Belgium and America, the data shows that Blacksmiths receive 11, 8½, 10 and 28 cents per hour, respectively; machinists, 9½, 6½, 10 and 25.8; and assemblers, 11 and 9 cents in the first two territories named, while in America they receive an average of 24.6 cents. Pattern makers receive 12 and 10 cents in France, Austria and Italy, as against 31.9 cents in America. The same comparison applied to the earnings of electricians gives the figures, 12, 7 and 25 cents, while carpenters receive 12 cents in France, 6 in Belgium and 33.4 in America. The European apprentice system gives to the French manufacturers from 2½ to 3 years of labor at no pay, while the makers of Austria and Italy are obliged to give half pay for the two-year periods of tuition.

Early this week the Motor World addressed a score of well-known American automobile manufacturers with this request:

What is your opinion of proposed reduction in tariff to 30 per cent. urged by Importers at Washington? Do you favor any reduction?

Half of those reached hastened to place themselves on record, expressions of opinion being almost unanimously in the negative, though in some instances subject to qualification. The gist of some of the replies follows:

Thomas B. Jeffery & Co.—"We do not favor reduction in tariff on automobiles The time is not right nor the industry in condition to meet any such change."

Pope Manufacturing Co.—"We highly approve retention of at least 45 per cent. duty on motor cars and parts."

National Motor Vehicle Co.—"We are not in favor of any reduction in tariffs on automobiles."

Premier Motor Manufacturing Co.—"Believe present tariff of automobiles satisfactory and any change undesirable."

Believing that the prices asked for their product would place them beyond the range of foreign competition in the event of a reduction, a firm which requested that its name be withheld expressed a leaning toward such a change, since if it were extended to certain parts, their own costs would be reduced. For the general good of the industry, however, they stand for the retention of the present tariff.

Palmer & Singer Mfg. Co.—"I think it would be a great mistake to reduce the tariff on automobiles imported into this country. Of course, it would not affect the cheaper grades of cars to any extent, but the best American cars would be affected materially and a reduction would put many of our American manufacturers out of business."

Maxwell-Briscoe Motor Co.—"Under the present conditions the duty on foreign automobiles merely corresponds to the duty levied on raw materials, and it forms a much-needed protection to the American manufacturer as well as to his workmen. The danger of an injudicial reduction of the tariff is that the foreigner will utilize the American market as a dumping ground for the surplus of his cheaply-produced cars. As a matter of fact, the foreign manufacturers are selling their cars in this country now at cost or only slightly above cost, and the American maker's only protection for his industry is the 45 per cent. duty. It would be manifestly unfair to favor the foreign manufacturer with a reduction of duty on his finished product while at the same time retaining the rates imposed on unfinished material used by the domestic manufacturer, because the American maker is unable to obtain his labor at the low figures that are a rule in European factories. Unless the American manufacturer benefits by a commensurate protection, he would be forced to go out of business."

E. R. Thomas Co.—"Do not think it advisable."

The George N. Pierce Co.—"The leading foreign automobile manufacturers have equipped their plants with American made, modern labor-saving machinery and devices. With skilled labor at one-half or one-third the rates paid here and with the present duty against them, the foreign makers are able to compete in this market, as the yearly increasing imports of foreign made automobiles shows. Under these conditions it is plain that a further reduction in tariff would mean increased imports of foreign made cars and reduced production by American manufacturers, ultimately resulting in a lowering of the scale of wages paid for labor and a reduction in the number of workers employed. These conditions justify our opposition to any reduction of the present rate of duties on automobiles."

Dayton Motor Car Co.—"We are in favor of having it remain just where it is."

Studebaker Automobile Co.—"We are decidedly opposed to it. The automobile business in this country is practically a new industry and many millions of dollars have been invested in it. Such a proposed reduction in the tariff would not only retard growth but come pretty near ruining it. This is one of the businesses which needs the protecting help of the tariff."

Brush Runabout Co.—"At the present time it is only the higher priced cars that are in danger of foreign competition and people who buy this type of car use it as a luxury and can afford to pay a liberal duty if they choose to have a foreign name plate on their car. The only people the retention of duty affects is those who can amply afford it. In view of the above we do not favor any reduction whatever."

Program for A. M. C. M. A. Show Week.

Announcement was made last week of the program for the show week of Dec. 31st-Jan. 7th, which is to include besides the usual meetings of the various trade and other organizations, several special "nights" on which the Show Committee of the American Motor Car Manufactures' Association will make special provision for the entertainment of certain specified classes of visitors. As in previous years, "Society Night" will be the chief occasion for sartorial adornment, while the designation of the opening "Gala Night," which is usually given over chiefly to the chauffeurs and their lady friends, is sufficiently suggestive in itself. The full program for the week is as follows:

Thursday, December 31st, 10 A. M. Meeting, Show Committee, A. M. C. M. A.; 3 P. M., Private view of automobile show; Meeting, Executive Committee, New York Automobile Trade Association; 8 P. M., "Gala Night."

Friday, January 1st, Army and Navy Night.

Saturday, January 2nd, Students' night; 10:30 P. M., Show smoker to visiting motorists and dealers at A. C. A. Clubhouse.

Monday, January 4th, 2 P. M., Executive Committee meeting, American Automobile Association; Engineers' night.

Tuesday, January 5, 10 A. M., Executive Committee meeting, National Retail Automobile Dealers' Association; 4 P. M., Meeting, Board of Governors, Automobile Club of America; 1 P. M., Show luncheon to exhibitors by A. M. C. M. A., Hotel Manhattan; Meeting, Society of Automobile Engineers; Society night.

Wednesday, January 6th, 10 A. M., Meeting of Committee of Management, A. M. C. M. A.; 8 P. M., Meeting, Board of Directors, Importers Automobile Salon; Executive Committee meeting, Motor and Accessory Manufacturers; Merchants' night.

Thursday, January 7th, Executive Committee meeting, American Motor League; Municipal night.

Detroit on Eve of Show Warfare.

Show warfare is promised in Detroit, Mich., both the Tri-State Automobile & Sportsmen's Association and the Detroit Automobile Dealers Association having fixed upon dates for rival exhibitions. The former plan to hold theirs at the Light Guard Armory during the week of January 25, while the "Da-Da" show is scheduled for the week of February 15.

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EXHIBITORS AT THE PALACE SHOW

Official List of 263 Displays of Cars, Parts and Accessories—Aeronautic Exhibits Completely Crowded Out.

Official announcement last week of the list of exhibitors at the first of the New York shows, to be held in Grand Central Palace during the week of Dec. 31st-Jan. 7th, revealed a total of 263 displays of cars, parts and accessories, which was lower than had been anticipated. Of these 75 will be the exhibits of manufacturers of complete vehicles of one sort or another, while 188 stands will be given over to the exhibition of parts and accessories. The foreign contingent will consist of 10 importers or agents for the over-seas manufacturers. So great has been the demand for space that the Show Committee has been forced to requisition the area formerly occupied by the Aero Club in order to provide accommodation for the entire aggregation. The complete list of exhibitors is as follows:

Vehicle Exhibitors.

Acme Motor Car Co.
American Motor Car Co.
Austin Automobile Co.
Atlas Motor Car Co.
Anderson Carriage Mfg. Co.
American Motor Truck Co.
Chadwick Engineering Works.
Brush Runabout Co.
Buckeye Mfg. Co.
Benner Motor Car Co.
Black Mfg. Co.
Bristol Engineering Co.
Brewster & Co.
Chadwick Engineering Co.
Cameron Motor Co.
C. G. V. Import Co.
Coates-Goshen Automobile Co.
Cleveland Autocab Co.
Commercial Truck Company of America.
De Luxe Motor Car Co.
Dayton Motor Car Co.
De Dion Bouton Selling Branch.
De Dietrich Import Co.
Delahaye Import Co.
Ford Motor Co.
Fiat Motor Co.
Gaeth Automobile Co.
Grabowsky Power Wagon Co.
Gramm-Logan Motor Car Co.
Gyroscope Automobile Co.
Holsman Automobile Co.
Hotchkiss Import Co.
Hart-Kraft Motor Co.
Inter-State Automobile Co.
Isotta Import Co.
Jackson Automobile Co.
Kiblinger, W. H., Co.
Kissel Motor Car Co.
Lancia Import Co.
Lane Motor Vehicle Co.
Lansden Co., The.
Mack Brothers Motor Car Co.
Marion Motor Car Co.
Maxwell-Briscoe Motor Co.
Midland Motor Co.
Mitchell Motor Car Co.
Moline Automobile Co.
Moon Motor Car Co.
Mora Motor Car Co.
McCue Co., The.
Middleby Auto Co.
National Motor Vehicle Co.
Nordyke & Marmon Co.
Oakland Motor Car Co.
Overland Auto Co.
Omar Motor Co.
Owens Co., R. M.
Pennsylvania Auto-Motor Co.
Pittsburg Motor Vehicle Co.
Panhard & Levassor.
Palais de l'Automobile.
Premier Motor Mfg. Co.
Regal Motor Car Co.
Reliable Dayton Motor Car Co.
Reo Motor Car Co.
Rapid Motor Vehicle Co.
Reliance Motor Truck Co.
Renault Frères Selling Agency.
Simplex Motor Car Co.
Speedwell Motor Car Co.
Schacht Mfg. Co.
Sultan Motor Co.
Welch Motor Car Co.
Wayne Works.
York Motor Car Co.

Accessory Exhibitors on First Gallery (Members Motor and Accessory Manufacturers.)

Ajax-Grieg Rubber Co.
American Ball Bearing Co.
American Electrical Novelty Mfg. Co.
Atwater-Kent Mfg. Works.
Atwood-Castle Co.
Autocoil Co.
Auto Improvement Co.
Badger Brass Mfg. Co.
Baldwin Chain and Mfg. Co.
Bowser & Co., S. F.
Briscoe Mfg. Co.
Brown-Lipe Gear Co.
Byrne, Kingston & Co.
Coes Wrench Co.
Columbia Nut and Bolt Co.
Connecticut Telephone and Electric Co.
Consolidated Rubber Tire Co.
Continental Caoutchouc Co.



THE EXHIBITORS' BUTTON

Cowles & Co., C.
Cramp & Sons Ship and Engine Building Co., Wm
Diamond Chain and Mfg. Co.
Diamond Rubber Co.
Dixon Crucible Co., Joseph.
Dow Tire Co.
Edmunds & Jones Mfg. Co.
Electric Storage Battery Co.
Empire Automobile Tire Co.
Firestone Tire and Rubber Co.
Fisk Rubber Co.
G & J Tire Co.
Gabriel Horn Mfg. Co.
Gilbert Mfg. Co.
Gemmer Mfg. Co.
Goodrich Co., B. F.
Goodyear Tire and Rubber Co.
Gray & Davis.
Gray-Hawley Mfg. Co.
Ham Mfg. Co., C. T.
Harris Oil Co., A. W.
Hartford Rubber Works Co.
Hartford Suspension Co.
Heinze Electric Co.
Herz & Co.
Hess-Bright Mfg. Co.
Hoffecker Co., The.
Hyatt Roller Bearing Co.
Jones Speedometer Co.
Kokomo Electric Co.
Leather Tire Goods Co.
Light Mfg. and Foundry Co.
McCord Mfg. Co.
Mezger, C. A.
Michelin Tire Co.
Morgan & Wright.
Mosler & Co., A. R.
Motsinger Device Mfg. Co.
Motz Clincher Tire and Rubber Co.
National Battery Co.
National Carbon Co.
National Coil Co.
Never-Miss Spark Plug Co.
N. Y. & N. J. Lubricant Co.
Oliver Mfg. Co.
Pantasote Co.
Pennsylvania Rubber Co.
Pittsfield Spark Coil Co.
Randall-Faichney Co.
Rands Mfg. Co.
Remy Electric Co.
Republic Rubber Co.
Sager Co., J. H.
Shaler Co., C. A.
Shelby Steel Tube Co.
Smith Co., A. O.
Spicer Universal Joint Mfg. Co.
Splitdorf, C. F.
Sprague Umbrella Co.
Standard Roller Bearing Co.
Standard Welding Co.
Stewart & Clark Mfg. Co.
Swinehart Clincher Tire and Rubber Co.
Timken Roller Bearing Axle Co.
Veeder Mfg. Co.
Warner Gear Co.
Warner Instrument Co.
Weed Chain Tire Grip Co.
Westchester Appliance Co.
Wheeler, F. H.
Whitney Mfg. Co.
Witherbee Igniter Co.
Motor and Accessory Manufacturers.

Other Accessory Exhibitors—First Gallery.

Miller, Charles E.
Newmastic Tire Co.

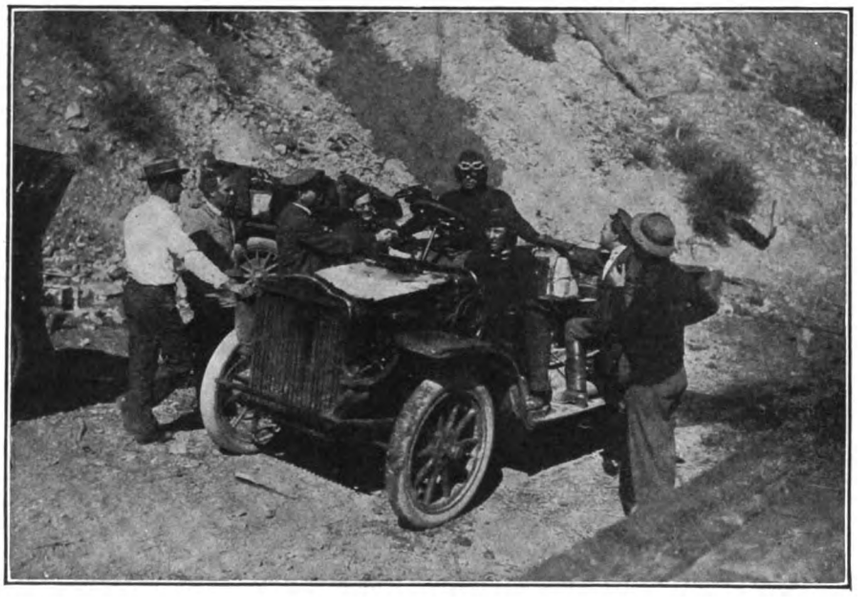
Exhibitors on Second Gallery.

Automobile Club of America.
American Automobile Association.
American Motor League.
Automobile Supply Mfg. Co.
Allen Auto Specialty Co.
Anderson Forge Machine Co.
American Thermo Ware Co.
Alexander & Co., H. T.
Austro-American Separator Co.
American Metal Hose Co.
Automobile Co-operative Association of America.
Auto Tire Inflating Co.
American Thermos Bottle Co.
Bosch Magneto Co.
Bretz Co., J. S.
Briggs, William M.
Brown Co., The.
Brown Mfg. Co., John W.
Brownell Motor Co., F. A.
Buda Foundry and Mfg. Co.
Bunnell & Co., T. N.
Burnett Compound Spring Incorporation.
Burrowes Co., E. T.
Branderburg & Co.
Comptoir d'Innovation Pour Automobiles.
Downing, Charles J.
Driggs-Seabury Ordnance Corporation.
Dayton Rubber Mfg. Co.
Elite Mfg. Co.
Ennis Rubber Mfg. Co.
Empire Auto Top Co.
Excelsior Battery Co.
F. R. V. Auto Parts Co.
Flentje, Ernest.
Federal Mfg. Co.
Geiszler Brothers.
Garage Equipment Co.
Gloversville Auto-Glove Co.
Healy Leather Tire Co.
Havoline Oil Co.
Hill Mfg. Co., The.
High Wheel Auto Parts Co.
Hydraulic Oil Storage Co.
Jeffrey-Dewitt Co.
Johnson & Co., Isaac G.
Keystone Lubricating Co.
Lavalette & Co.
Lutz-Lockwood Mfg. Co.
Long Island Auto Supply Mfg. Co.
Motor Vehicle Publishing Co.
Merchant & Evans Co.
Monitor Mfg. Co.
Miller & Sons William P.
Metal Stamping Co.
Marko Storage Battery Co.
Myers, J. L. & A. J.
National Retail Automobile Dealers' Association.
National Auto Top Co.
New Departure Mfg. Co.
New York Coil Co.
Noonan Tool and Machine Works, A. S.
Philadelphia Timer and Machine Co.
Perfection Wrench Co.
Pneu l'Electric Co.
Polson, W. F.
Rushmore Dynamo Works.
R. I. V. Company, Inc.
Reeves & Son, Paul.
Royal Equipment Co.
Rubly Mfg. Co.
Shore Instrument and Mfg. Co.
Stromberg Motor Device Co.
Standard Leather Washer Mfg. Co.
Spare Motor Wheel of America, Limited.
Snell, Irving.
Salman & Co., John A.
Stanley & Patterson.
Safety Device Co.
Sireno Co.
Seamless Rubber Co.
Troy Carriage Sun Shade Co.
Travers Blowout Patch Co.
Union Battery Co.
U. S. McAdamite Metal Co.
Vanguard Mfg. Co.
Wilkinson Co., John S.
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WHITE WINS

Los Angeles to Phoenix Road Race



A brilliant victory was scored by the White Steamer in the recent stock-car race through the mountains and over the desert from Los Angeles, California, to Phoenix, Arizona. Once again the White demonstrated that in a stock-car competition and over roads such as exist in most parts of the country it is faster than any other type of machine. Such a contest as the Los Angeles-Phoenix race is far more significant than a race between specially built cars over specially selected and carefully prepared highways. This latest White victory indicates to the purchaser just what kind of service he may expect from the type of car which he can buy and over roads such as he will have to cover.

The White is the fastest car on give-and-take roads, not because it has the highest-powered engine, but because it delivers at the rear wheels a larger percentage of the power of the engine than any other type. Furthermore, that power is available under all conditions, whether running fast or slow, and no time is lost in shifting gears or in waiting for the engine to "pick up speed." In other words, under ordinary road conditions, the flexibility of the White engine will do what great power in other types of engines cannot do.

Write for circular describing the 1909 models.

THE WHITE COMPANY

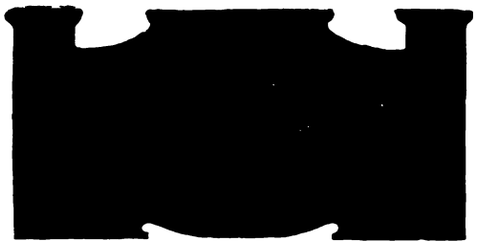
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NEW YORK, DECEMBER 3, 1908.

Progress Toward Uniform Laws.

In the convention of governors, held in Boston early last week, is found one of the most encouraging symptoms of a popular awakening in directions toward which it is most necessary such an awakening should be directed which has yet been seen. Such a convention could not have existed without a sufficient groundwork of popular feeling to guarantee it the support of at least a courteous hearing. On this account its very existence must be held almost as much in esteem as the efforts at progress which it brought forth.

The movement for equalizing the legal measures of various states is one which is of particularly vital interest to the motorist not only because it touches directly his interests in the cause of the highway and the cause of automobile legislation, but also because it tends toward the effacement of that great variety in the popular attitude which is responsible for the differences in the enactments at present in force. Next to a universal law, the passage of uniform laws by the various states, with only such differences as local conditions demand, is most to be desired. The generalization resulting from any such movement must inevitably result in the suppression of abusive restrictions and the betterment of motoring conditions. Apart from the questions of speed limits, universal lights, state or federal aid, or any of the other measures advocated, the convention is creditable to New England as a step in an upward direction.

Development of the Farmer Market.

Though considerable stir is being made just now by the several "quantity producers" who lay claim to a good share of the "farmer market," in accounting for the distribution of their product there is, perhaps, more or less skepticism among outsiders as to the actual basis of the big rural demand for its fulfilment. That they are well founded, and furthermore that the farmer is not only recognized as being worth going after, but is being gone after in persistant and searching fashion is revealed in the extensive plans of campaign undertaken by the various selling organizations in the field.

These forces all have their own individual methods of attack, direct and indirect; their arrangements for seeking and convincing the individual buyer, all worked out according to a thoroughly consistent system. Furthermore these systems, though differing in detail agree pretty uniformly in the provision for direct supervision over the local agents by emissaries sent out directly from the chief of the organization. In more than one instance there is combined with this a system of field work which is calculated at once to reinforce the efforts of the local workers and also to gauge the success of their labors. The net result is a system by which practically every man within a prescribed territory who is either able to afford a car, or who "looks as though he might be," to quote the words of one sales manager, has been given an opportunity to invest in the modern substitute for the horse and wagon.

For example, the branch of one well-known manufacturer which has jurisdiction over a territory including some thirty-five counties is equipped with as many local agencies as can be secured, in addition to which the entire field is constantly being patrolled by four travelers whose business it is not simply to oversee the work of the agents, but also to search out possible customers for them. In doing this the "drummers" are in fact, continually scouring the country in search of prosperous looking farms. As soon as a place is discovered whose owner is known to have sufficient means to place him within the class of "prospects," or whose appearance is such as to warrant such an inference, some excuse is made to stop. The traveler inquires the way to the nearest town, begs to drink of water, buys a glass of milk, inspects the live stock or fodder and in any way possible engages the farmer in conversation. Before he leaves, his measure has been taken, perhaps even he has been given a demonstration under one pretext or another, and within a few days he receives a direct request for patronage from the local agent to whom his name has been turned over.

Not simply this, but the movement of crops, their volume and the influx of money in return for them are watched with zealous care, both with regard to quantity and distribution. In this way the location of prospective customers is assisted, while the profitable handling of the selling forces is managed to better advantage than were the canvass made on a more indiscriminate basis. The farmer market has been a vast and intangible thing hitherto, but while it is being exploited with direct and persistent methods such as these, it is developing at a rate which not only accounts for a number of very large outputs, but also accounts for a softening of the rural attitude toward motoring in a way otherwise inexplicable.

About the Importers' Demands.

There is no small element of human interest in the appearance of a representative of the Importers' Salon before the Ways and Means Committee at Washington last week in advocacy of a one-third reduction in the tariff on imported automobiles. It is indicative not merely of the straits in which the foreign makers find themselves just at present, but also of a recogntion among the importers themselves, if not of open acknowledgement of the fact that the status of the imported product has undergone an alteration in the United States such that it can no longer lay claim to the grand and lofty supremacy which served to exalt it for so long a time. For the proud and haughty importer of a year or two ago to be humbled to the point of seeking a large outlet for the small car is a change of face sufficiently marked in itself

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to be noteworthy. Yet that is the real meaning of the present movement for tariff reduction.

After years of prosperity and plenty a period of decline set in which culminated in the downfall of several of the firms in New York City which had loomed large in the brave array of dealers in the foreign product. Happily, or unhappily, the period of business depression intervened just as matters were reaching a climax and obscured the real facts which were that the American market for the gilded importations was fast waning into nothingness. At the same time a counter movement set in in the growing use of imported cabs, so that the otherwise noticeable drop in actual importations has been bridged over by a perfect deluge of low and medium powered vehicles which though serving to preserve a respectable exterior for the importer have in reality been a very different product from that which formerly was entered. The fact of the matter is that the sale of the expensive and high powered foreign cars has dwindled terribly during the past three years, and the importer in the interests of self-preservation is forced to get down to a basis of price competition, or something very like it.

Just here considerable importance attaches to the present situation abroad. Europe, slower in feeling the effects of the financial depression of last year, has also been slower in recovering from it than the United States. The natural result of this has been a curtailment of production among the automobile makers and with rare exceptions, if any at all, the manifestation of a desire to cater to the ever available intermediate field with a medium priced product. Added to this that the medium priced chassis also lends itself well to the demands of the commercial cab and the inducement is complete. The present session of the Paris Salon tells the story in figures better than words, and the attitude of the American Importers is a natural corollary of it.

In this connection it is particularly enlightening to note the altered attitude of the importers who, through their representative declare the generous use of American machinery by the foreign builders to be a valid reason for a reduction in the tariff upon the finished product. This is a marked concession, as it is not so very long since the alleged supremacy of the foreign-made machine was declared to be based on the accuracy of the hand workmanship employed in its construction. Indeed, that argument stood in good stead for several years. Another marked concession is disclosed by the further excuse for tariff reduction on the ground that it constitutes an encouragement to home industry, since 90 per cent. of the bodies placed upon foreign chassis are produced in this country. As a matter of fact, it was the first sign of weakening when the American made body began to come into use on foreign cars to a noticeable degree two or three years ago.

It can no longer be held that the foreign product, as a class, is superior to the domestic either in point of design, material or construction. With the gilded halo of its high price removed, it is questionable even whether it would find as ready a sale as it does just now, as it stands upon its pinnacle of exclusive appeal to a certain class of buyers. At all events, the efforts to popularize it on even terms with the home product are productive of no small diversion.

Abandonment of Circular Track Races.

Without desire to detract from the credit which is due the American Automobile Association for setting itself on record as against the practice of automobile racing on circular horse tracks, it may be granted a pity that it had not the courage of its convictions in sufficient degree to take a firmer stand and prohibit it outright. As it is, this branch of the sport is practically cut adrift and left to its fate without the control of any governing body. The declaration of the "Three A" goes not further than to express a conviction of its inutility and to foreswear any further countenancing of it. It might better have stood upon its prerogatives as the governing body over all national contests and forbidden its continuance, instead of itself executing an humble retirement.

The perils which follow in the wake of racing upon circular tracks are so certain and insistent that that branch of competition has become conspicuous for its disasters. A totaling of the list of crippled and maimed in the industry as a result of its horrors—they are nothing less—would yield a surprising number of names of those who in their day were reckoned not so much reckless as skilful drivers. The list of the killed no one has yet had the courage to compile.

With the growth in popularity of endurance contests of the more rational, if no less exacting or strenuous kind, hill-climbs which tax the driver and his machine to the uttermost, and road races in which the stretches are of sufficient length to compensate for time losses at the turns, the need of the circular track has gone out of existence. The parkway idea is too young as yet to be judged on its commercial merits, but it offers the most legitimate outlet for the high-speed impulse and for the requirement for high-speed competition on a large scale.

COMING EVENTS

December 5-6, San Francisco, Cal.—Automobile Dealers Association's track meet, Tanforan Park.

December 12, Denver, Col.—Denver Motor Club's hill climbing contest, Lookout Mountain.

December 12, Worcester, Mass.—Worcester Automobile Club's 200 miles reliability and endurance contest.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 1-2—Quaker City Motor Club's two days endurance run, Philadelphia to Wilkes Barre, Pa., and return.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show, Madison Square Garden.

January 21-31, Los Angeles, Cal.—Automobile Dealers Association's show.

January 23-30, Philadelphia, Pa.—Philadelphia Automobile Trade Association's annual show.

January 27-February 3, Philadelphia, Pa.—Automobile Trade Association's eighth annual show, Second Regiment armory.

February 6-15. Chicago. Ill.—National Association of Automobile Manufacturers' Show, Coliseum and First Regiment Armory.

February 15-20, Cleveland, O.—Automobile show, Central Armory.

February 15, Detroit, Mich.—Detroit Automobile Dealers Association's show, Wayne Pavilion.

February 16-18, Denver, Col.—Denver Motor Club's first annual show, Auditorium.

February 22, Ceveland, O.—Cleveland Automobile Dealers Company's show, Central Armory.

February 27-March 3, Hartford, Conn.—Automobile Dealers' Association show.

March 6-13, Boston, Mass.—Boston Automobile Dealers Association's (Inc.) seventh annual show, Mechanics Building.

March 27-April 3, Pittsburg, Pa.—Automobile Dealers Association's show, Duquesne Garden.

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WAGNER NIPS GRAND PRIZE BY SECONDS

Driver of Victorious Italian Car in Savannah's Spectacular Contest Covers 402.08 Miles at Average Speed of 65.1 per Hour —Hemery Finishing First Gets Second Honors—Police and Militia Guard the Course While Vast Crowds See Race.



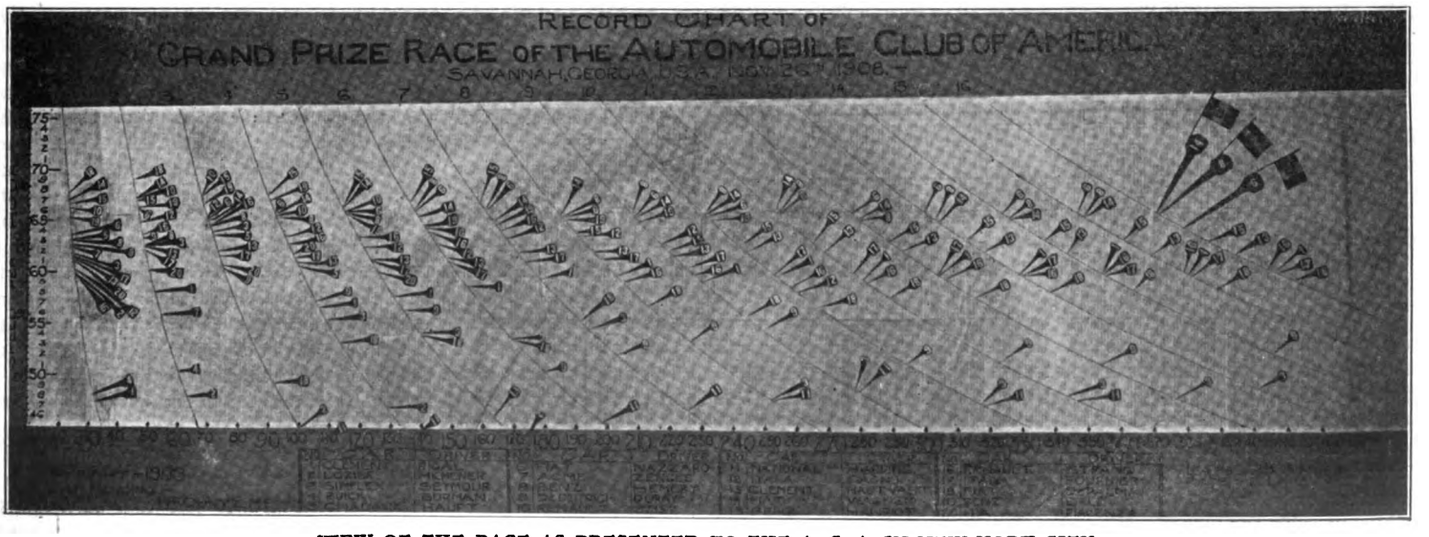
Stop-watches only split down to fifths of a second, and yet even this brief unit of time is too long in which to express the difference in average time per mile between the first and second cars in the Grand Prize race held at Savannah, Ga., on Thanksgiving Day. The race was for a distance of 402.08 miles, 16 times around a course measuring 25.13 miles, and the net time between Wagner in the No. 14 Fiat, the winner, and Hemery, in the No. 8 Benz, which finished second, was 56⅗ seconds. Wagner's time for the whole distance was 6 hours, 10 minutes, 31⅗ seconds, an average speed of 65.1 miles per hour.

Not only was this remarkably close result a record of its kind in automobile road racing, unlikely to be approached for many years, but the incidents of the final struggle were of a character to rouse the spectators to the highest pitch of intense excitement, the three leaders, Nazzaro, Hemery and Wagner, see-sawing and interchanging positions so that no one could pick the final winner with certainty. Even when the last of the three finished, it was necessary to wait for the timers' announcement before one could be sure who had won.

The finish provided dramatic changes in fortunes for both the Benz and the Fiat camps, Nazzaro at the start of the last lap appearing to have a sure grasp on the victory, but Hemery overtaking him and arriving first, quite changing the aspect of things, so that it appeared to be a Benz triumph. The flying Wagner then became a factor and wrested the victory away from Hemery, making it secure for the Fiat camp.

Quite as marvelous as any other feature of the race was the perfect manner in which it was guarded and kept clear. The gold room of the Bank of England is easier of access to the man without the necessary credentials than was the roadway of the Savannah course. Bayonets that were itching to stick somebody and lead-loaded revolvers with hair trigger attachments made it perilous for anyone without a full set of passes, badges, certificates and brassards to so much as set foot on the edge of the roadway itself. Furthermore, if the road pass designated the point at which the holder might cross, it was highly injudicious for him to attempt to use it anywhere else, as he was very likely to land in jail or the hospital.

One white man, driving a horse, was stabbed in the ribs with a bayonet for not getting off the course as quickly as the officer in charge demanded. He is still in the hospital, the stabber being commended for efficient performance of duty. No record is possible of the number of venturesome colored unfortunates who were punctured with the soldiers' steel or poked in the stomach with gun butts, but the majority of the colored brethren and sisters and young folks were healthily afraid of the militia and were scrupulously observant of the



VIEW OF THE RACE AS PRESENTED TO THE A. C. A. IN NEW YORK CITY.

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regulations imposed on spectators and so vigorously enforced.

Hanriot, driver of the No. 15 Benz, after finishing fourth in the race, filled up with gasolene and started back on the course to his camp, in a reverse direction. He was gone before the patrolmen could stop him, but the soldiery soon called upon him to halt. Although he slowed up several times at their upraised hands, he did not stop, being unable to understand English. Whereupon an officer drew a revolver and shot holes in the rear tires and the gasolene tank of the big racing machine. When the official word came that the race was over, the racing Hanriot was permitted to resume his trip back to his camp.

Special trains from New York, Washington, Cleveland, Indianapolis and Chicago, as well as from many points in the South, not to mention the boats from New York, brought hosts of visitors into the city, and the attendance at the race was conservatively estimated at 100,000 people, although some calculations placed the estimate at twice that figure. While the light car race on Wednesday was well attended, it was the Grand Prize affair that found all Savannah and its visitors present.

Betting and bookmaking were more conspicuous than at any of the Vanderbilt races, the latter being the natural standard for comparison, so far as big car races in this country are concerned. The lobby of the De Soto hotel on Wednesday night was a busy scene of wager laying, and the diminutive Tod Sloan, ex-jockey and meteoric sport, dressed in evening clothes and a plaited, bulgy white shirt, was the center of one of the many rings of bettors. That the betting was on wise "dope," was shown by the results, only small odds being given on Hemery, Nazzaro and Wagner, the last wagers making Wagner a favorite with Hemery, 3 to 1 being given on each.

As was to be expected, the race brought to Savannah a great number of men prominent in the trade, a roster of whom would read like a directory of the industry. Not a few were to be found in the press stand, either as "assistants" to the men writing the accounts of the race or as representatives of mythical and heretofore unheard of "syndicates" or press associations.

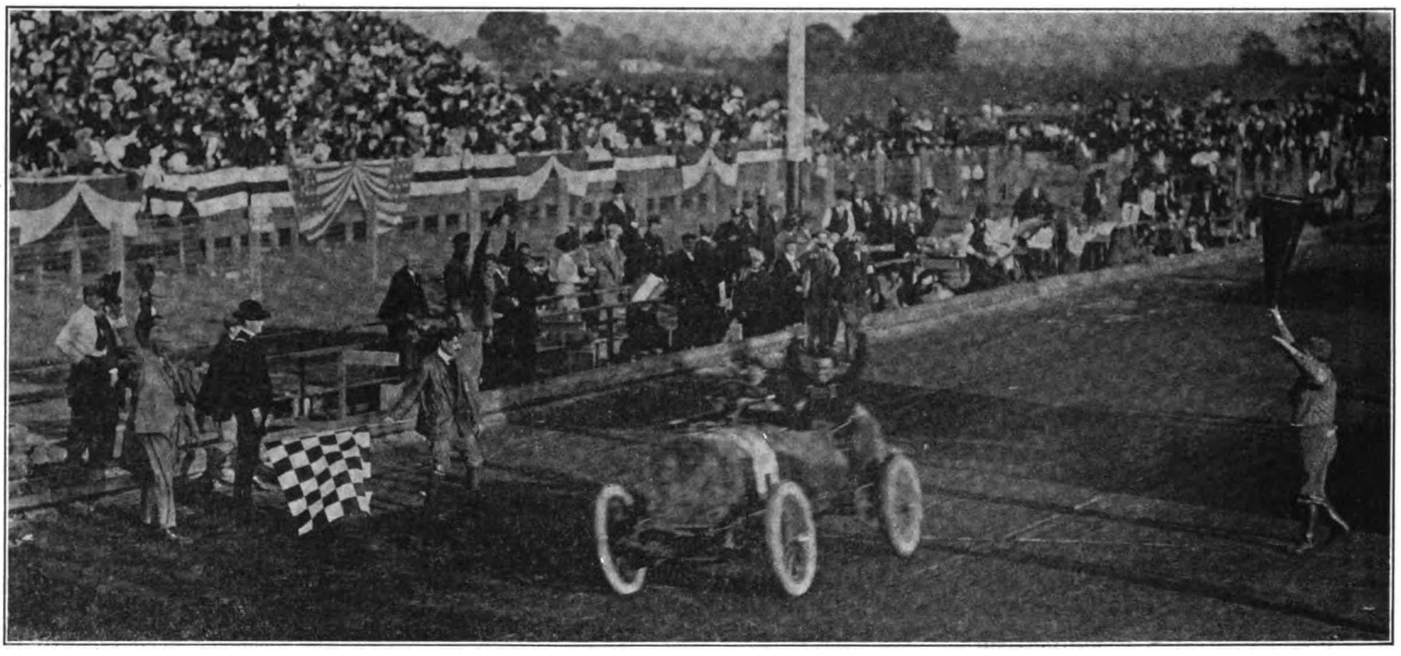
Enjoyment of their two days' stay was assured to the visitors by the genuine and unfailing hospitality of Savannah's citizens. The local residents wore large red badges, reading, "I live here. Ask me." Furthermore, they would accept, too, there being opportunities on every street, as the prohibition law is only a "Jim Crow" affair in its local application. The bars for white men were wide open, and at the De Soto hotel no soft drinks were available. But the red badges proved of real service for strangers who did have to ask for directions or information, and in every case inquirers were given every assistance possible.

A strong local pride in the success of the races was apparent, Savannah being very earnest in its desire to have future events of like character held on its splendid course. The latter is on the public roads of Chatham county, adjacent to the city. These roads are of Augusta gravel and are scientifically constructed, varying from 30 to 60 feet in width. The oil treatment which they receive in preparation for a race makes them almost dustless, and the sharper turns are well banked. The permanent grandstand now seats a total of 21,000 people, a section seating 5,000 people having been added just before Thanksgiving Day.

"Did you enjoy the race?" asked a passenger on the observation platform of one of the special trains as it pulled out Thursday night. He addressed a prosperous but austere looking man, who looked like a typical bank president.

"Anybody who saw that race," replied the latter, "and then beefs about not getting his money's worth is an undesirable citizen."

Fog, heavy fog, wrapped up the morning of Thanksgiving Day and completely answered the criticisms of the grumblers who had complained that a break-of-day start would be much more "picturesque" for the Grand Prize race than the comparatively late hour of 9 o'clock, which had been set.



SCENE AT THE FINISH—WAGNER'S SPECTACULAR ARRIVAL

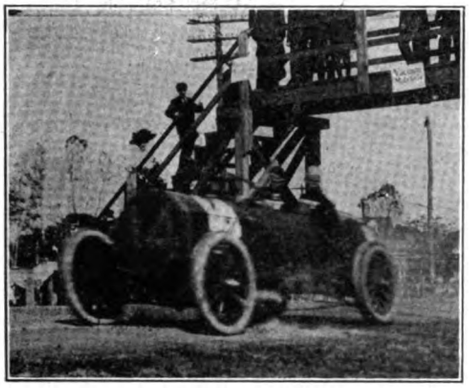
From the first gray peep of morning the crowds began trooping to the course and grandstand, through the heavy blue mist, and many rural spectators, who had driven in with wagons or buggies, took up their positions by the roadside in the dark hours of the night. By half-past eight the stand was filled, and the racing machines themselves were all gathered before the pits, ready to take their positions for the start.

Even at close range it required eager peering to identify them through the thick haze of the morning vapors, their long, hulking red, blue and white bodies all looking very much alike. In contrast to the start of previous big races in this country, there was little raising of hoods or tinkering, all of the drivers apparently being satisfied that their cars were in the best possible condition. A few went over their machines in a casual way, rubbing with waste here and there, or re-arranging the tools between the seats, but most of them stood about in groups discussing the fog or receiving the good wishes of officials and friends. Each machine was well guarded, however, by attendants in overalls, who cast dark looks at thoughtless officials who, having the priv-

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ilege of the course, in some cases leaned against the racers.

As 9 o'clock approached it became apparent that the mist was still too heavy to permit a start, and word was passed that there would be a wait of half an hour to give time for it to clear. The more frivolous of the drivers and mechanicians amused themselves by tossing silver dollars into the air and matching, until this diversion

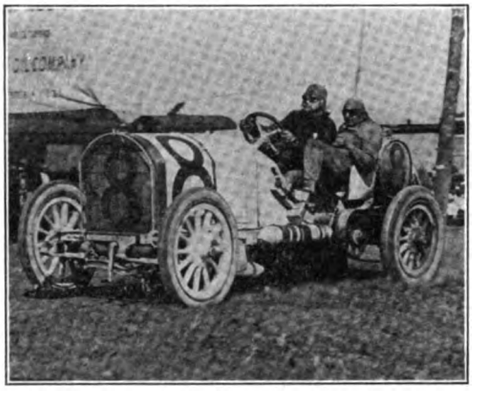


WAGNER FIRST

was put at an end by the chief of police, who escorted the men back to their cars by their coat collars, amid much laughter. The dapper Nazzaro appeared on the scene dressed in a bluish gray union suit effect, which set off his slim lines to great advantage, while Fournier presented a very different aspect in a costume consisting of knee-length khaki trousers, giving him the appearance of a brewery cask handler, or something equally burly and unromantic. Hemery wore a plaited gray plaid short coat, knee length trousers and puttees, leaving it to his mechanic to sport voluminous overalls. The prize in the costume line went to the Lozier team, both Mulford and his mechanic having long white coats, and headgear with flowing white streamers. The pair presented a smart appearance when in their all-white outfit they went to the line.

Although at half past nine the fog was still too thick to make it safe to send the cars off, the moisture was nevertheless condensing rapidly, falling like fine rain and making the roads wet and slippery. It was announced that 9:45 would be the official starting time. The effect of this announcement immediately converted the space in front of the grandstand into a theater of feverish activity. From a mixed mass of cars active attendants soon wheeled the machines into two lines back of the tape, according to their numerical order. Practically all of the motors were then cranked and the engines permitted to run for a few moments, to make sure of no difficulty at the starting line. While making a good deal of noise, none of the cars made the battle roar which has been a feature of the Vanderbilt events, as instead of the open exhaust direct from the sides of cylinders, most of the engines were fitted with manifolds which carried down and back to a rearward pointed exhaust box. The latter, while without baffle plates or muffler construction, reduced the sound considerably. All the tires at the start were fitted with nonskid treads.

Even at 9:45 the air was still thick, but the blue Clement-Bayard, bearing No. "1," was sent off amidst rousing cheers from the grandstand, the cheers being taken up in the distance as the spectators along the course caught sight of the rushing monster hurling through the mist. The white Lozier, No. 2, put after it a minute later, the streamers from the caps of its occupants floating out straight behind and giving an impression of great speed. The other cars followed in order a minute apart, all of them getting away in good style and spinning off into the rapidly lessening haze, which quick-

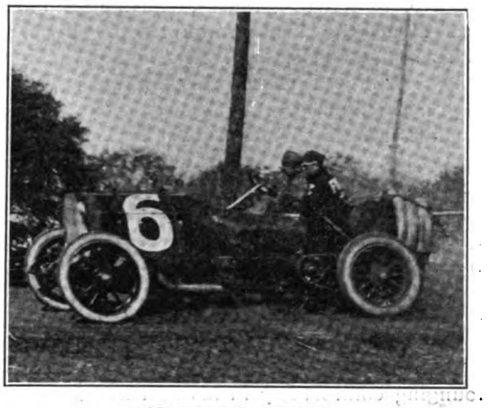


HEMERY SECOND

ly swallowed them from sight. When the whole 20 had been dispatched there was a buzz of expectation as to what changes the first round would show in the running order. In the few brief minutes before the leaders should appear, the sun began to assert itself, and the dark gloom of the early part of the morning quickly melted away before its powerful warmth and light.

The first tidings of the progress of the race came in the form of a telephone message to that effect that No. 1 had "passed Burnside," which information, while taken to indicate that the car was "on its way," did not signify much else, as very few knew where Burnside was, and it was not marked on the maps accompanying the program. This was followed by information that other cars had passed the same point, but the announcements were cut short by the call of the bugler at the end of the grandstand, giving the signal that a car was nearing. Through the remaining traces of the morning's mist the No. 2 Lozier loomed into view, white streamers and all, and went thundering by the stand for the start of its second lap. It was cheered unroariously as having overtaken its French predecessor, but after the No. 3 Simplex and the No. 5 Chadwick came along, without contest from the No. 1 Clement, it became apparent that the latter must have had some trouble. Later reports showed that the car had magneto difficulty and that Rigal, its driver, had stopped to fit a new one.

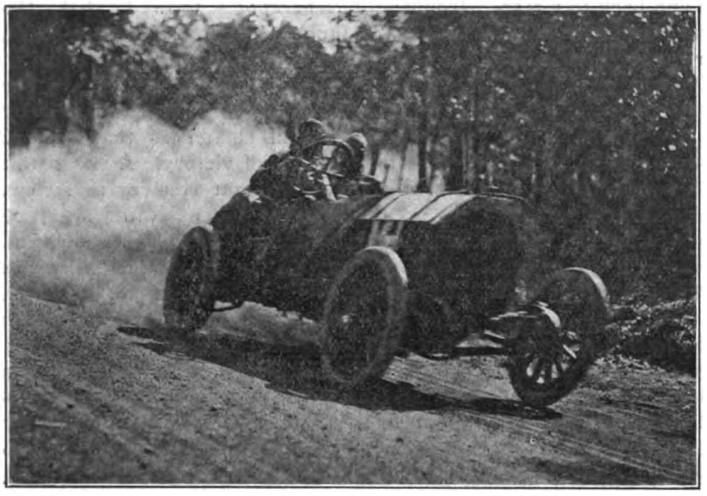
Nazzaro's No. 6 Fiat was the first of the foreign cars to appear and it whizzed by with a speed and steadiness that seemed to spell confidence of victory. A short wait of two minutes brought Hemery into view, his great white No. 8 Benz eating up space in a fashion that was glorious to see, and whirling away in pursuit of the swift and elusive Nazzaro. Next came No. 10, Szisz, in a blue Renault, the car with its rakish prow and low lines going by like a streak. The tow-headed Duray, with No. 9 on his De Dietrich's radiator, romped past a moment later, followed in a few seconds by the delayed Rigal in the No. 1 Clement, who was greeted by cheers. A red Itala, No. 12, piloted by Cagno, led the long, cream-colored No. 7 Acme, driven by Zengle, by a few seconds. Burman's No. 4 Buick pounded across the line, but with no sign of the necessary speed. About a minute later No. 14, Wagner, in a red Fiat, darted into view and was gone, with a hum that was almost musical being so regular. His Fiat, too, like Nazzaro's, had a Benz pursuer, the sturdy German machine No. 15, driven by Hanriot, flying after it in strong style.



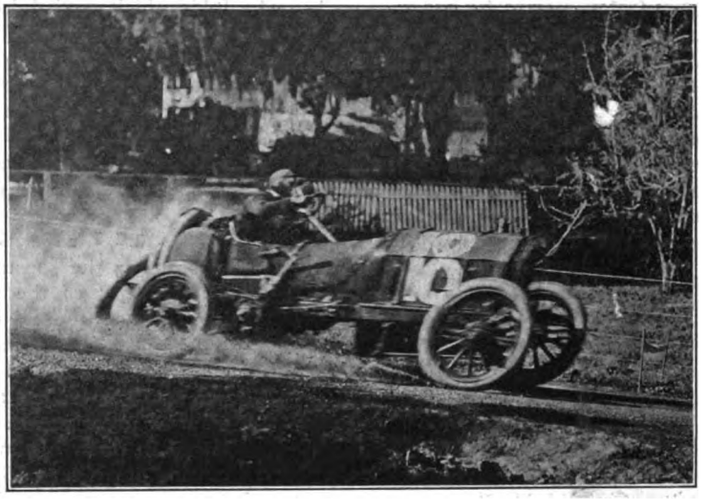
NAZZARO THIRD

Strang was looked for next, in the No. 16 Renault, but No. 13 Clement-Bayard, with Hautvast at the wheel, appeared. When the bugle next sounded, it was for No. 18, De Palma in a Fiat, who came tearing down the stretch and off into the distance at a marvelous pace, having made the first lap in the fastest time of all, 22 minutes and 18 seconds for the 25:13 miles. It was hard to pick Strang when he came, his car being disclosed without its screen-like bonnet with which it had started, the engine showing bare. Despite this indication of trouble, however, he was making good speed and was given a hearty vocal encouragement by the rooters. Fournier was right after him, with the black suspenders showing over his fat back as his No. 17 Itala barked in the chase. The only real German driver in the race, Erle, in the No. 19 Benz, was obviously faster, gaining rapidly on them both, yet sweeping by in a nonchalant way that be-

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WAGNER'S LIGHT TOUCH AT A TURN



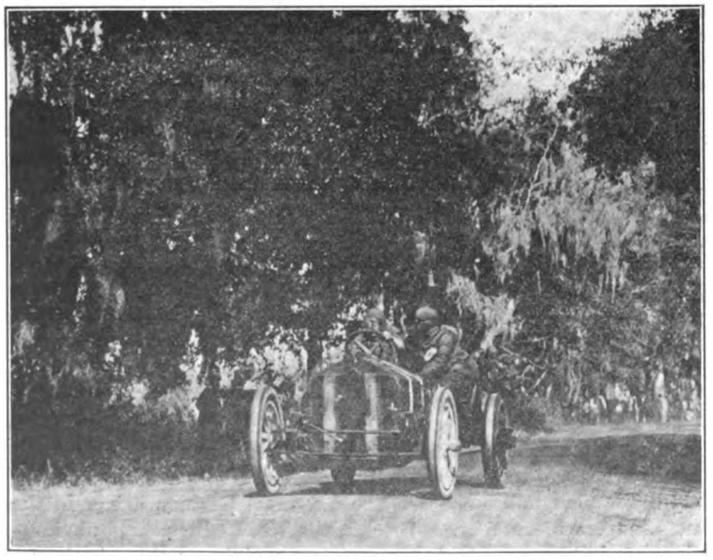
DE PALMA SWEEPING A CURVE

spoke considerably more speed in reserve. The Itala No. 20, the last to start, showed up about three minutes later, running well, with Piacenza as the pilot. All but the No. 11 National, with Harding up, were thus accounted for on the first lap, the times showing that Wagner was next after De Palma in point of elapsed time, with Hanriot in the No. 15 Benz, third, and Szisz in the No. 10 Renault, fourth. Fifth position was earned by Erle in the No. 19 Benz, Nazzaro getting sixth, Haupt in the Chadwick making seventh, and Hemery the eighth position.

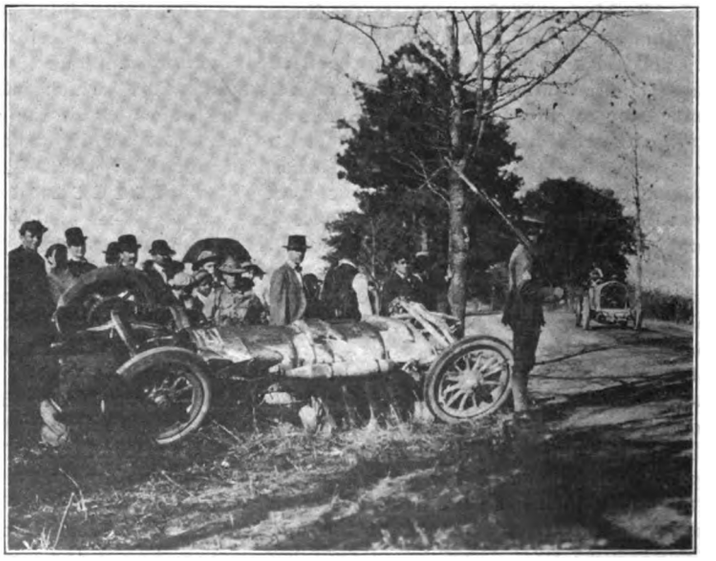
Under the strong sunlight the air was now perfectly clear and still, and when the bugle sounded, announcing cars coming in the stretch, it was possible to see them a great distance away, gradually growing bigger until they flashed by, and diminished again with equal rapidity. The leaders in the second round proved to be the No. 3 Simplex and the No. 5 Chadwick, followed shortly by Nazzaro's No. 6 Fiat, the graceful Italian lounging comfortably in his seat as he shot along at impressive speed. Hemery soon followed, and, while he was among the real speedsters, seemed to be holding plenty in reserve. In this lap De Palma, in the No. 18 Fiat, again took the honors for the shortest elapsed time, making the round in 21:36. He had almost overtaken Hautvast in the No. 13 Clement at the grandstand, but the Frenchman had driven furiously past the stand and down to the corner, half a mile below, where the course turned to the left for a long straight stretch of several miles. Across the fields it was possible from the stand to see both cars in this long stretch, and the spectators went into wild enthusiasm when De Palma was seen to enter the straightaway and gain in his chase. In the distance he passed the Clement, while the stands went crazy. The belated National, No. 11, made its appearance and completed its first round, having taken over 55 minutes, its delay being unaccounted for. But it came around the second time at good speed. All the contestants finished the second round, Wagner holding second position, next to De Palma, Hanriot in the No. 15 Benz holding third, Szisz in the No. 10 Renault fourth, and Erle in the No. 19 Benz, fifth. The road generals, Nazzaro and Hemery, were taking things more easily.

To use a bicycle racing phrase, De Palma "blew up" in the third lap, and instead of the 21:36 of his previous lap, he took 47:54 for the round. He had tire trouble, and some lubrication trouble. Furthermore the case for supporting his spare tires at the back came loose and let the "spares" drag on the ground. When he came around to the pits, the case was pulled off, and he tried to devise a makeshift holder for carrying his extra tires in safety. The best speed at the conclusion of the third lap had been by Hanriot in the No. 15 Benz, with Szisz second, and Erle third. Cagno in the No. 12 Itala, was in fourth position, with Nazzaro fifth, Wagner sixth, and Hemery seventh. It was from this time on that the last three began to "unwind," and to wage the Benz-Fiat battle in earnest.

First around on the fourth lap was Naz-

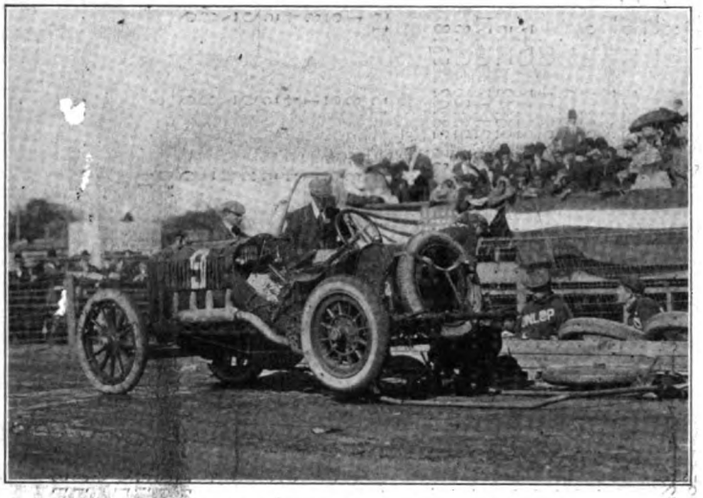


HARDING, NATIONAL, ON A SMOOTH STRETCH



SEYMOUR PASSING WRECK OF ERLE'S BENZ

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DURAY MAKING QUICK TIRE CHANGE



REPAIR PIT SHOWING STOCK OF REPLACEMENTS

zaro, going faster than previously. He had overtaken the Simplex and the Chadwick. Hemery was the next to appear. His pursuit of Nazzaro was unfaltering. When Wagner came along among other cars a little later, he, too, had manifestly let out another notch. His incentive to do so lay in the fact that Hanriot's No. 15 Benz, which had started one minute after him, was now about three minutes and miles ahead. In fact, the No. 15 Benz held the lead in point of elapsed time, as it had in the previous lap, with Erle's No. 19 Benz second, Nazzaro's No. 6 Fiat third, Wagner's No. 14 Fiat fourth, Szisz fifth and Hemery's No. 8 Benz sixth. At this time it was three Benz cars against two Fiats in the fight for first place at the finish, with little chance for any other car.

The pace had by this time put the Buick out of it, the car having retired near the county farm. The Chadwick, too, had quit because of lubrication and other difficulties. The Acme had to be taken off while a broken spring was reinforced with a block of wood, and the Lozier and the National were only appearing occasionally, while the Simplex was running a somewhat doubtful career, but making a good showing thus far. The repair pits in front of the grandstand began to have plenty to do, as various cars would stop for tire changes or minor replacements, or replenishments of gasolene and oil.

For the fifth, sixth and seventh laps Hanriot in the No. 15 Benz continued to hold first place in the elapsed time. Hemery took second place, Nazzaro third, and Wagner fourth, the four men remaining in this order of position until the eighth round. In the sixth lap Duray limped up to his De Dietrich pit with the strut rod on the right side of his machine crumpled up and his rear axle considerably askew. Working like mad, he and his mechanic took off the right chain, dismounted the whole rear wheel brake mechanism, took off the distorted rod, fitted a new one, replaced all the brake mechanism and the chain, and were gone again, in less than 15 minutes. There was a great demonstration in his honor as he started off, in appreciation of his rapid work. As one bystander observed, "That would have been a day's work in a repair shop." In the seventh lap, De Palma again made the round in 21:36, which time for a single lap was not equalled by any of the other drivers.

In many ways the eighth round was one of the most important of the race, since it marked the half way point and disclosed the different policies of the drivers. A majority of them took occasion on this round to change from non-skid tires to smooth treads, the course having dried perfectly under the baking sun. Nazzaro was the first to stop. Jumping out lightly he and his mechanic worked with marvelous precision in taking off the caps of the oil and fuel tanks and the radiator, and introducing to each a big funnel. In a moment the water, oil and gasolene were pouring into their respective apertures as fast as they would flow, while Nazzaro examined his tires, rubbed his hands with liniment, discussed



VIEW OF THE COURSE FROM THE GRANDSTAND, SHOWING THREE CARS APPROACHING

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TABLE SHOWING ELAPSED TIME OF EACH CAR IN GRAND PRIZE RACE

No.	Driver.	Car.	Country.	H.P.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
14	Wagner	Fiat	Italy	120	22:30	45:03	69:46	92:14	114:14	138:50	163:07	184:57	208:47	230:58	253:02	279:31	304:16	326:28	348:39	370:31
8	Hemery	Benz	Germany	120	23:54	48:24	70:27	92:39	115:02	137:26	160:21	185:27	207:59	230:49	254:03	279:58	303:11	325:59	348:37	371:27
6	Nazzaro	Fiat	Italy	120	23:42	46:45	69:30	92:01	114:44	137:40	160:46	185:37	208:38	231:32	254:22	277:14	299:52	323:32	346:45	378:47
15	Hanriot	Benz	Germany	120	22:38	45:13	67:26	89:44	114:10	136:02	158:38	189:57	219:27	241:47	265:09	288:53	312:44	336:39	360:43	386:12
13	Hautvast	Bayard Clem.	France	120	24:36	48:41	73:06	99:17	123:24	147:31	171:23	195:19	221:11	244:10	268:49	293:00	318:08	343:30	369:13	394:06
16	Strang	Renault	France	115	25:13	47:33	70:29	96:23	119:10	141:55	165:30	204:52	227:32	258:18	282:03	306:08	330:03	356:47	378:58	403:37
1	Rigal	Bayard Clem.	France	120	32:23	57:00	81:52	106:41	130:51	154:48	178:31	202:52	230:16	254:45	280:52	304:16	329:11	354:13	380:16	405:49
17	Fournier	Itala	Italy	110	24:30	48:45	73:40	98:37	123:41	148:39	173:21	197:38	225:23	252:53	277:59	303:57	329:51	355:23	381:20	406:32
18	De Palma	Fiat	Italy	120	22:18	43:54	91:48	113:36	140:14	169:33	191:09	213:04	243:54	266:31	289:05	315:28	338:35	363:43	388:59	411:34
9	Duray	De Dietrich	France	125	24:05	47:48	75:07	105:38	134:07	179:55	203:07	226:22	249:29	294:16	322:41	353:49	379:47	405:33	*	
3	Seymour	Simplex	America	50	24:25	48:23	72:06	108:59	139:26	169:06	193:56	251:50	278:14	317:14	343:43	376:26	401:02	426:55	*	
11	Harding	National	America	60	55:01	80:46	107:25	136:40	163:28	198:21	225:32	252:34	279:23	318:10	346:49	*				
19	Erle	Benz	Germany	120	23:12	45:40	68:12	90:28	115:12	140:36	164:00	186:11	210:27	232:33	Hit tree					
12	Cagno	Itala	Italy	110	24:11	46:40	69:27	95:21	121:08	144:20	167:27	190:49	217:11	260:03	Broke spring					
2	Mulford	Lozier	America	50	25:11	63:07	101:03	128:45	171:52	310:23	337:43	366:53	394:02	429:11	*					
10	Szisz	Renault	France	115	22:41	45:16	67:33	92:29	114:46	141:12	Broke axle									
7	Zengle	Acme	America	70	27:22	54:04	181:31	208:53	236:45	263:52	Broke spring									
20	Piacenza	Itala	Italy	110	24:41	51:31	74:48	98:07	125:48	Ditched										
5	Haupt	Chadwick	America	50	23:51	47:17	72:23	99:52	Lubrication trouble											
4	Burman	Buick	America	50	31:44	59:56	Out.													

* Running when race was called off.

TABLE SHOWING TIMES BY LAPS AND AVERAGE SPEEDS IN GRAND PRIZE RACE

No.	Driver.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Av. miles per hour.	Fastest lap.	Av. miles per hour fastest lap.
14	Wagner	22:30	22:33	24:43	22:28	22:00	24:36	24:17	21:50	23:50	22:11	22:04	26:29	24:45	22:12	22:11	21:52	65.1	21:50	69.
8	Hemery	23:54	24:30	22:03	22:12	22:23	22:24	22:55	25:06	22:32	22:50	23:14	25:55	23 13	22:48	22:38	22:50	64.9	22:03	68.38
6	Nazzaro	23:42	23:03	22:45	22:31	22:43	22:56	23:06	24:51	23:01	22:54	22:50	22:52	22:32	23:13	23:12	32:22	63.6	22:31	67.
15	Hanriot	22:38	22:35	22:13	22:18	24:26	21:52	22:36	30:19	29:30	22:20	23:22	23:44	23 51	23:55	24:04	25:29	62.4	21:52	68.99
13	Hautvast	24:36	24:05	24:25	26:11	24:07	24:07	23:52	23:56	25:52	22:59	24:39	24:11	25:08	25:22	25:43	24:53	61.2	22:59	65.64
16	Strang	25:13	22:20	22:53	25:54	22:47	22:45	24:45	39:22	22:40	30:46	23:45	24:05	23:55	26:44	22:11	24:39	59.7	22:11	67.9
1	Rigal	32:23	24:37	24:52	24:49	24:10	23:57	23:43	24:21	27:24	24:29	26:07	23:24	24 55	25:02	26:03	25:33	59.4	23:24	64.43
17	Fournier	24:30	24:15	24:55	24:57	25:04	24:58	24:42	24:17	27:52	27:30	25:06	25:58	25 54	25:32	25:57	25:12	59.3	24:15	62.17
18	De Palma	22:18	21:36	47:54	21:48	26:38	29:19	21:36	21:55	30:50	22:37	22:34	26:23	23 07	25:08	25:16	22:35	58.6	21:36	69.8
9	Duray	24:05	23:43	27:19	30:31	28:29	45:45	23:12	23:15	23:07	44:47	28:25	31:08	25 58	25:46	.....	.....	52.	23:07	65.27
3	Seymour	24:25	23:58	23:43	36:53	30:27	29:40	24:50	57:54	26:24	39:00	26:29	32:43	24:36	25:53	.....	.....	49.4	23:43	63.6
11	Harding	55:01	25:45	26:39	29:15	26:48	24:53	27:11	27:02	26:49	38:47	28:39	.....	.....	.....	.....	.....	47.8	24:53	60.55
19	Erle	23:12	22:28	22:32	22:16	24:44	25:24	23:24	22:11	23:56	22:26	.....	.....	.....	.....	.....	.....	64.4	22:11	67.9
12	Cagno	24:11	22:29	22:47	25:54	25:47	23:12	23:07	23:22	26:22	42:52	.....	.....	.....	.....	.....	.....	57.9	22:29	67.
2	Mulford	25:11	37:56	37:56	27:42	43:07	138:31	27:20	29:10	54:09	35:09	.....	.....	.....	.....	.....	.....	36.5	25:11	60.
10	Szisz	22:41	22:35	22:17	24:51	22:22	26:26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	63.8	22:17	67.7
7	Zengle	27:22	26:42	127:27	27:22	27:52	27:07	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34.2	26:42	56.5
20	Piacenza	24:41	26:50	23:17	23:19	27:41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	60.	23:17	64.71
5	Haupt	23:51	23:26	25:06	27:29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	60.	23:26	64.3
4	Burman	31:44	28:12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50.3	28:02	53.8

TABLE SHOWING POSITIONS AT END OF EACH LAP IN GRAND PRIZE RACE

No.	Driver.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
14	Wagner	2	2	6	4	2	4	4	1	3	2	1	2	3	3	3	1
8	Hemery	8	12	7	6	5	2	2	2	1	1	2	3	2	2	2	2
6	Nazzaro	6	7	5	3	3	3	3	3	2	3	3	1	1	1	1	3
15	Hanriot	3	3	1	1	1	1	1	5	6	5	4	4	4	4	4	4
13	Hautvast	13	13	11	11	9	9	8	7	7	6	5	5	5	5	5	5
16	Strang	16	9	8	8	7	7	6	10	9	9	8	8	8	8	6	6
1	Rigal	19	17	15	14	12	11	10	9	10	8	7	7	6	6	7	7
17	Fournier	12	14	12	10	10	10	9	8	8	7	6	6	7	7	8	8
18	De Palma	1	1	16	16	15	13	11	11	11	11	9	9	9	9	9	9
9	Duray	9	10	14	13	13	14	13	12	12	12	10	10	10	10		
3	Seymour	11	11	9	15	14	12	12	13	13	13	11	11	11	11		
11	Harding	20	20	18	18	16	15	14	14	14	14	12					
19	Erle	5	5	3	2	6	5	5	4	4	4						
12	Cagno	10	6	4	7	8	8	7	6	5	10						
2	Mulford	15	19	17	17	17	17	15	15	15	15						
10	Szisz	4	4	2	5	4	6										
7	Zengle	17	16	19	19	18	16										
20	Piacenza	14	15	13	9	11											
5	Haupt	7	8	10	12												
4	Burman	18	18														

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with the men in the pit whether he should change to smooth treads, and learned where he stood in the race position. He took a sip of champagne and then tossing the funnels into the pit and replacing the caps, vaulted into his car again and was off, just as Hemery came sliding in. It was the first sight that pursued and pursuer had had of each other since the start of the race, the space between them having all along been represented by almost exactly two minutes.

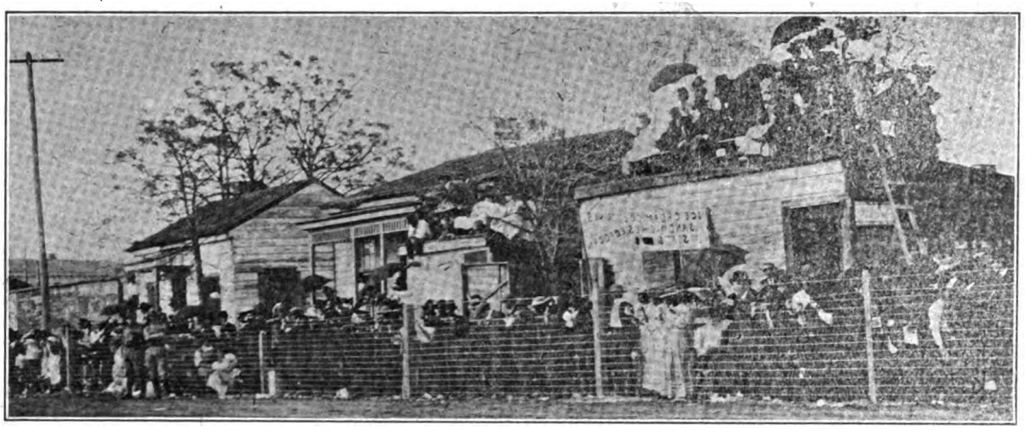
Nazzaro had by the precision of his arrangements and method of working reduced his stop to a fraction less than two minutes, and it remained to be seen if Hemery could do as well. Hemery, however, had a trick or two better than Nazzaro's. His fuel and oil were in portable receptacles with short funnel spouts, which when placed on the openings of the car's tanks could be left unattended until the contents had all poured down, when the portable receptacles would fall off empty. While his mechanic gave a moment to the radiator, Hemery manipulated a jack, raised his rear axle and punched a file into his two rear tires, deflating them for a quick change. In a few seconds more new tires had been put on, the caps on his tanks were closed, and away he went, in but little more time than Nazzaro had taken. This put Hemery on a better footing than Nazzaro so far as tires were concerned, as the latter had evidently determined to try to get through on the one set if possible and to take his chances on a roadside change if necessary.

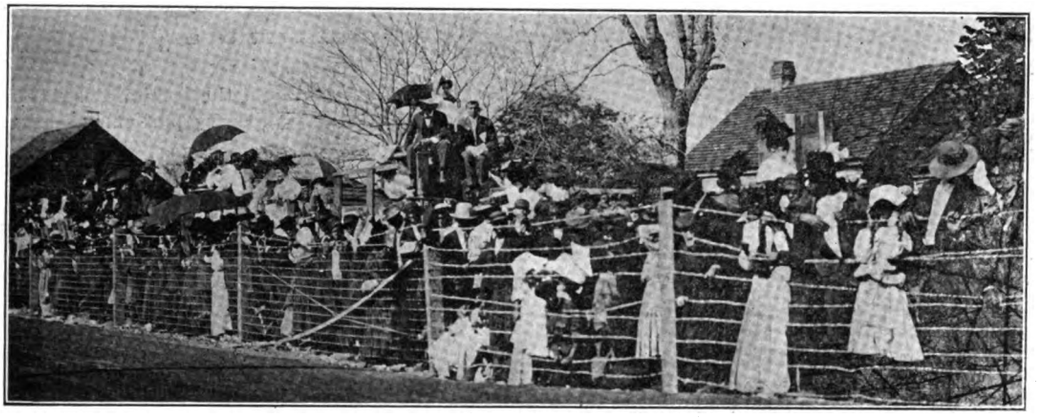
With the race but half over, the men and women in the immense grandstand began to seek temporary relief from the broiling of the afternoon sun. Stunning as were the gowns of many of the northern women in the stand, they were far too warm and uncomfortable to permit their wearers much enjoyment of the race, and the white summer dresses of the Savannah maids and matrons matched the temperature and circumstances much better. Big yellow butterfles lazily fluttered about the stand, sipping here and there at drops of spilled sarsaparilla and ginger pop, and mocking the furs which adorned the costumes of some of the sartorially incongruous visitors. In addition to dispensing "ice-cold soft drinks," venders traveled up and down the aisles hawking fans, which found a good sale, as there was hardly a sign of a breeze. Whole portions of the grandstand were vacated for a time, while the spectators went for lunch, some of them even going to their hotels or railroad dining cars and returning in time to see the finish.

A brisk fire in the tall dry grass back of the parking space at one end of the stand gave several municipal firemen, armed with portable chemical extinguishers, a lively quarter of an hour, but did not seem to create any alarm in the stand, although it was close by. A genral lassitude spread over the assemblage, induced by the heat of the day and the growing monotony of watching the lesser cars pass. Where space was available, men stretched out at their case on the benches, and took a siesta.

Shocking the crowd into erect attention, came the telephone report that Erle, in the No. 19 Benz, had been killed and his mechanic fatally injured, through smashing into a tree. The physicians comprising the emergency medical corps at the grandstand were quickly assembled, and some of their number were tolled off to an official car, for a fast run to the scene of the accident, not a great distance away, on the White Bluff road. The boyish Herr Neumaier, director of the Benz selling corporation, who was in charge of the Benz pit, jumped out in his blue overalls, and wanted to go, too, but was not permitted to do so. His grief and agitation over Erle's fate was very sincere, and he ran out of the enclosure seeking to reach his unfortunate driver by means of a machine outside the course. Before he got away, further telephone reports made it clear that Erle had not been killed and that his mechanic was uninjured. A few minutes later the details of the mishap were announced, to the effect that the non-skid tread of a right tire had torn loose, striking the driver in the head and making



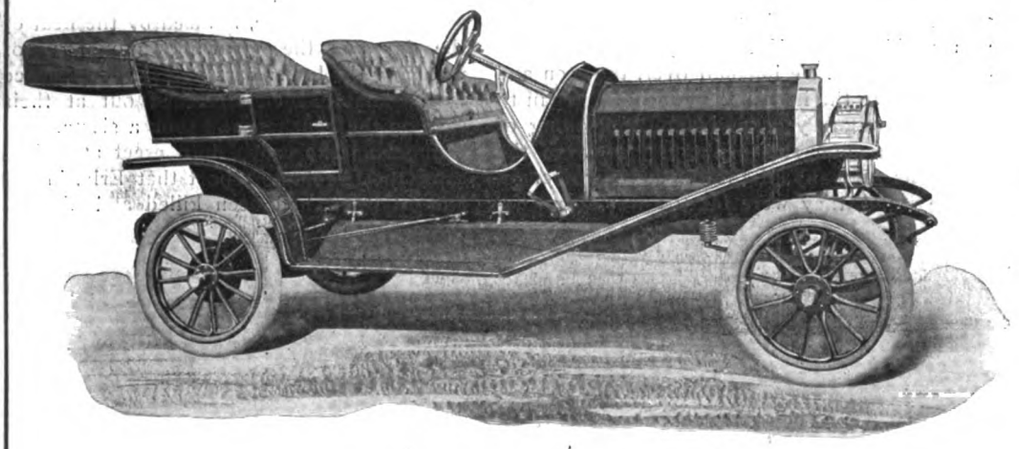






BITS OF LOCAL COLOR ALONG THE COURSE

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$1250.00
Lambert "30"
(SEE DESCRIPTION BELOW.)

The 1909 Line of Lambert Cars

(FRICTION-DRIVE)

OFFERS BIG POSSIBILITIES TO PROGRESSIVE AGENTS

The line will include six different cars, ranging from an $800.00 runabout to a $2000.00 7-passenger touring car.

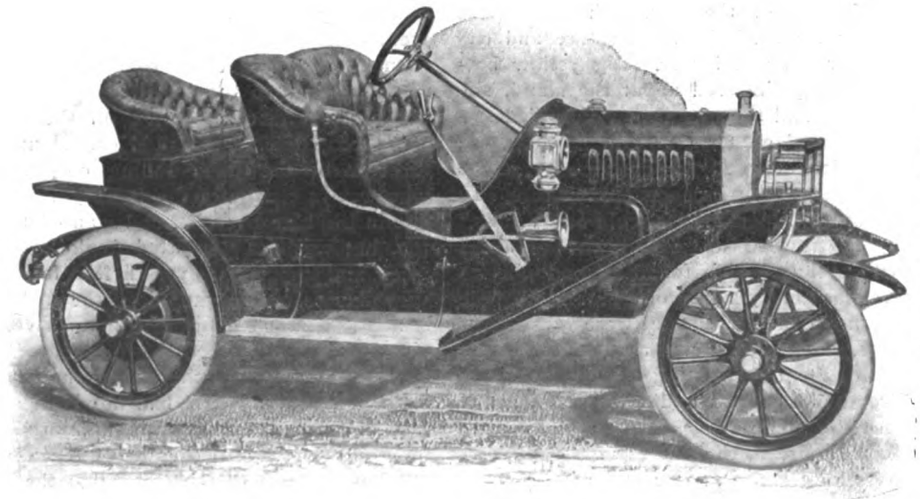
Every one of these cars is an extremely attractive proposition in its class, and even without the friction drive transmission (which is universally regarded as the ideal transmission) would compare favorably in every particular—design, workmanship, and finish, with other cars having the complicated and costly gear transmission.

The Lambert "30"

The Lambert "30," illustrated above, is unquestionably one of the biggest values in $1250.00 cars that will be offered in 1909. Here are a few of the specifications:

CAPACITY: 5 passenger.
HORSEPOWER: 28.
MOTOR: 4 cylinder Rutenber
SPEED: 1-45 miles.
WHEELS: 30 inches.
WHEEL BASE—110½ inches.
DRIVE: Single silent chain, enclosed in dust-tight metal case.
TIRES: 30″x3½″.
DETACHABLE TONNEAU.
WEIGHT: 1600 lbs.
PAINT: Body deep red; light red stripe on panel; black molding; running gear, light red, striped with English Vermillion. Special color on proper notice.
EQUIPMENT: 2 gas lamps and generator; tail lamp; 2 oil side lamps; 40 in. flexible tube, horn and full tool equipment.
PRICE: $1250.00 f. o. b. factory.

THE $1250.00 MODEL 27 carries the same specifications as the Lambert 30, except that it is equipped with 2 bucket seats instead of tonneau.



The $800.00 Lambert Runabout

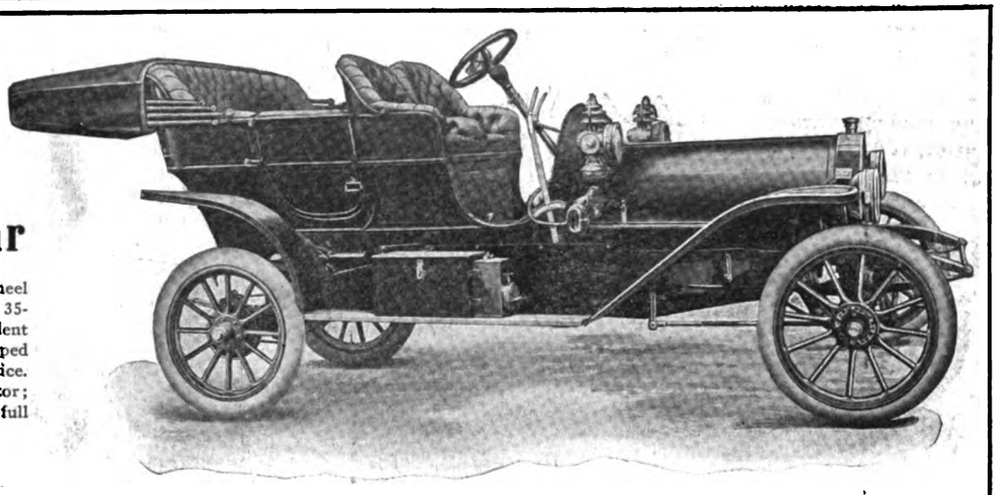
MODEL A-1—Will accommodate three passengers; rumble seat; 30x3″ tires; 18 H. P.; speed, 1-35 miles; single chain drive, enclosed; weight, 1500 lbs.; 2 gas lamps and generator; 2 oil lamps; tail lamp; 40″ flexible tube, horn and full tool equipment.

MODEL A-3, ($875.00)—Carries the same specifications as Model A-1, with the exception that it is equipped with a surrey seat in rear instead of a rumble seat.

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The $1750.00 Lambert Touring Car

MODEL 19—Carries 5 passengers; 117" wheel base; 30x3½" tires; 4 cylinder Rutenber motor; 35-40 H.P.; speed, 1-50 miles per hour; single silent chain drive, enclosed; painted Lambert green, striped with light green. Special color on proper notice. Weight, 1900 lbs.; 2 large gas lamps with generator; 2 oil lamps, horn; tool box on running board; full tool equipment.



Agents Wanted in Unoccupied Territory

There is going to be a big demand for low-price cars during the coming season, and the variety and prices of the Lambert line offer exceptional opportunities to the right kind of agents.

We desire agents who will make a specialty of demonstrating the Lambert cars; who appreciate the fact that the friction drive is the simplest, most economical, and most satisfactory method of transmission, and who will properly place this fact before prospective buyers.

We know from experience that Lambert demonstrations almost invariably result in sales.

The Lambert friction drive (which should not be confused with certain other friction devices) is covered by a basic patent that incorporates the only successful mechanism of its kind on the market, and the agent who places himself in a position to demonstrate and deliver Lambert cars will not only have all the advantages of a unique and increasingly-popular car, but will find an easy market for all the cars we can deliver to him.

Furthermore, the Lambert proposition to agents is an exceptionally good one from a financial standpoint.

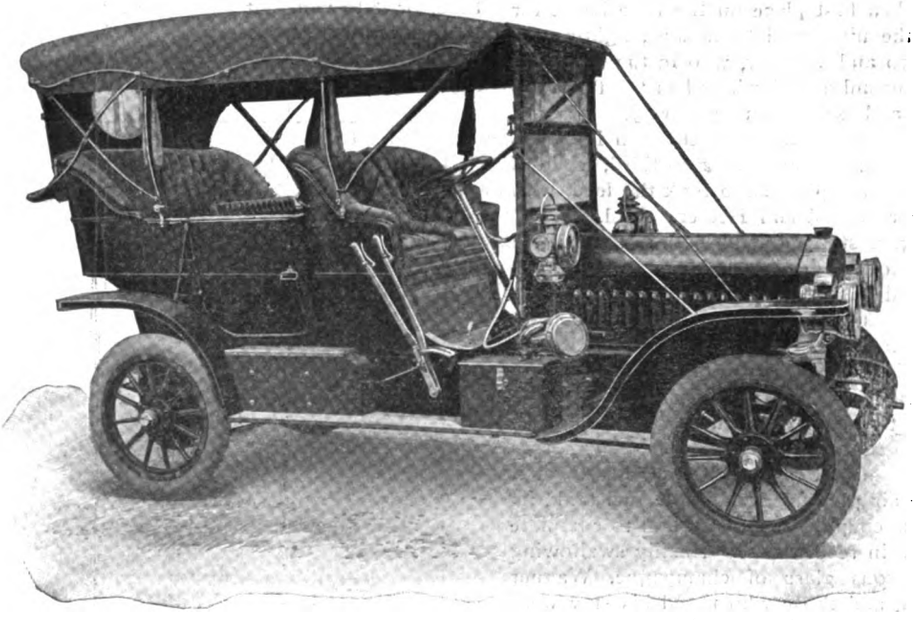
A special folder has been prepared for dealers who desire detailed information about these cars. This folder, together with our proposition, will be sent upon request to any dealer who will advise us as to the cars he is now handling and as to his facilities for properly representing us.

G. B. LAUDERBACK, Sales Manager.

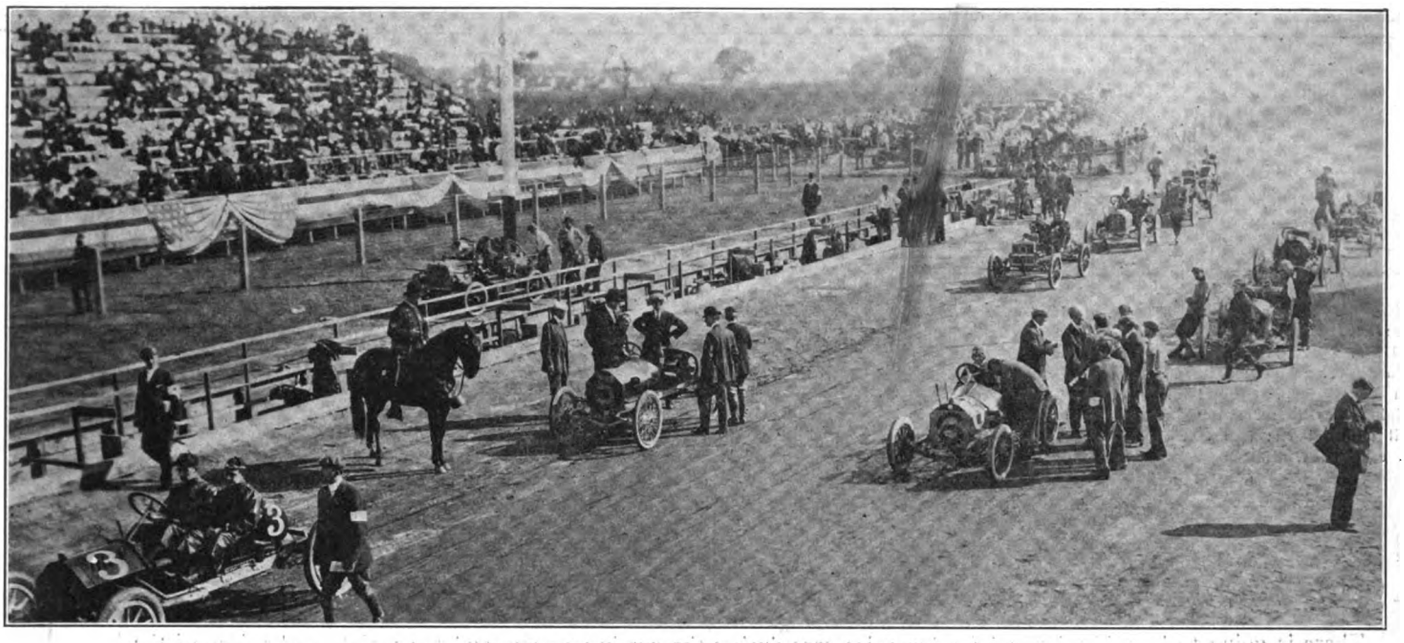
BUCKEYE MANUFACTURING CO., Anderson, Ind.

The $2000.00 7-Passenger Lambert

MODEL B-2—Carries 7 passengers; wheel base 116"; 32x4" tires; 4 cylinder Rutenber motor; 35-40 H.P.; speed, 1-45 miles per hour; direct chain drive to each rear wheel; body imperial green, black moulding, running gear, imperial green, striped with carmine; cape extension; top, with full set storm curtains; glass wind shield; 2 large gas lamps with generator; oil lamps; tail lamp, horn; foot rail; tool boxes on running board and in rear; full tool equipment.



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VIEW AT START OF THE LIGHT CAR RACE

him lose control of the machine, which was going at full speed at the time. The car ran off the road, and turned over, but the mechanic was able to pull Erle from behind the steering wheel in his flight, and they both fell clear of the machine. The heavy steel studs of the tire had broken Erle's nose and jaw, as well as bruising his shoulder, and he was unconscious and bleeding. The mechanic and some women attended him until the physicians arrived, by which time he had sufficiently revived so that he was able to walk to a nearby hospital. It was declared by the doctors that a week or so in the hospital would find him in good condition again. At the time of his accident he was in fourth position on elapsed time, having commenced his eleventh lap.

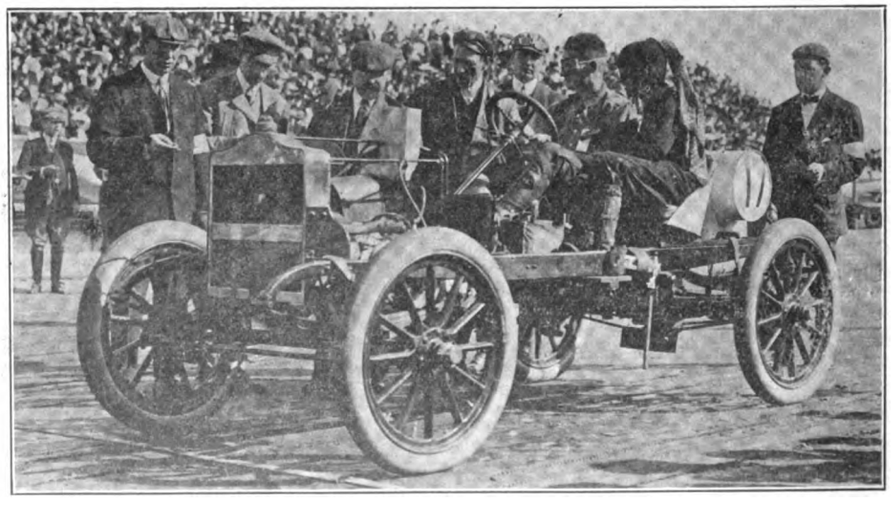
Meanwhile Hemery had opened up and had taken first place on the time basis, for both the ninth and tenth laps, fighting off Nazzaro and Wagner, who in the ninth lap were second and third, and in the tenth lap third and second, respectively. Wagner won first position in the eleventh lap, with Hemery second and Nazzaro third, while in the twelfth lap Nazzaro took the lead, with Wagner second and Hemery third.

Wagner stopped at the pits in the twelfth round, to change tires. When the big frame jack had raised his rear wheels, he gave two quick jabs with a pointed tool, puncturing both rear tires with a loud report. The right tire was quickly replaced, but the left one was more obstinate and it took some fitting to get it on. Furthermore, the mechanic grabbed a coil of copper tubing from the pit and put in a whole new length of it in the air pressure line to the fuel tank, ingenious couplings enabling him to complete the job in record time. Hastily swallowing a generous glass of champagne, Wagner put off, and those who timed his stay were amazed to find that it had been only a few seconds over two minutes, although so much had been accomplished.

Only eleven of the twenty cars were still running in the contest. The Itala No. 20, driven by Piacenza, had left the course at the Isle of Hope in the sixth round and had not resumed. The Acme No. 7 had been unable to get along well with the broken right front spring which the driver had so pluckily repaired, and was out of the running in the seventh lap, while Szisz in the No. 10 Renault had had a ball break in a front wheel bearing, the wheel coming off and running against a tree, ditching the car on Ferguson avenue, in the seventh. At its twelfth round the Itala No. 12, driven by Cagno, drew up at the stand and then drove slowly off the course, one of its rear springs being broken, and no repairs possible in time for it to win. At about the same time the National No. 11, driven by Harding, developed carburetter trouble, and did not appear again.

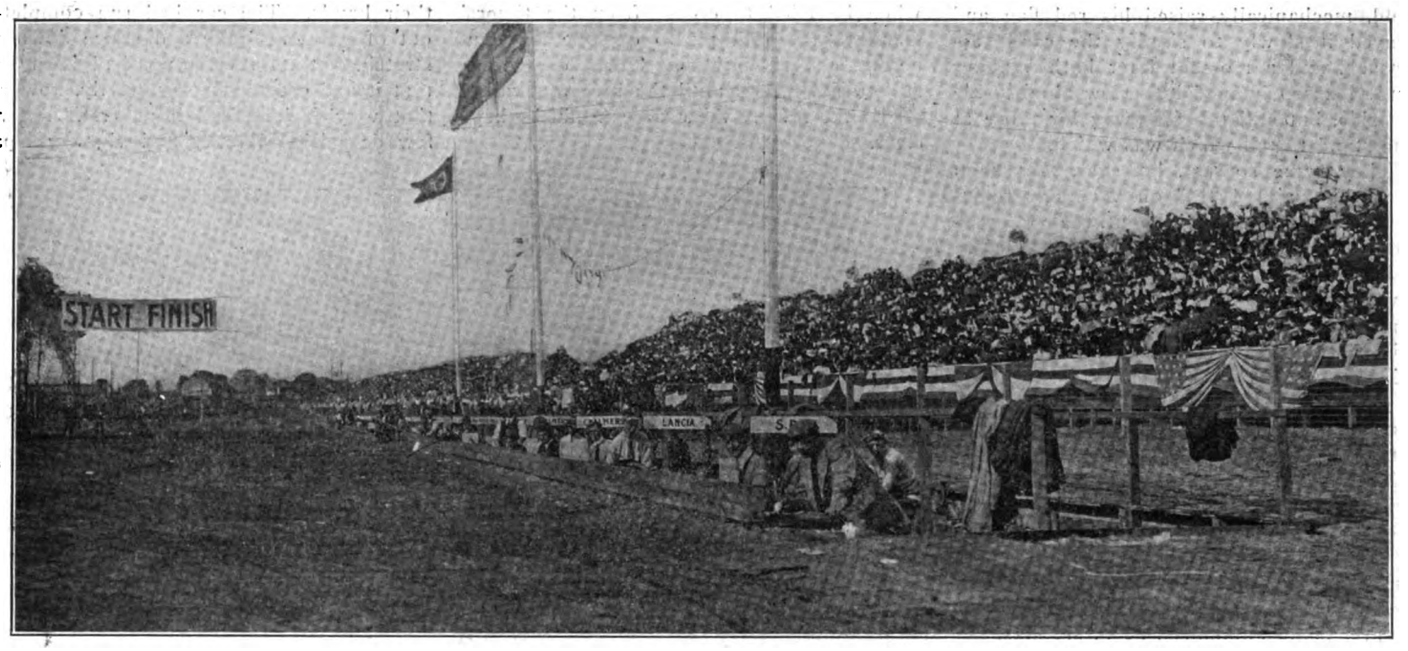
The gay spirited Duray on his eleventh lap suffered an accident which a driver of less courage would have felt entitled him to retire. The chain on the right side of his No. 9 De Dietrich snapped, whipping a great gash in his arm. He managed to control the car until his mechanic could take the wheel and bring the machine to a standstill. The spurting blood was stopped and Duray's arm bound up as well as could be done on the road. The mechanic then fixed the chain and drove to the stand, where he called for a doctor. Duray would not quit the race, and the physicians fixed him up with temporary dressing and bandages. He called for haste, more haste, and as soon as possible jumped into his car again, the mechanic taking the wheel for the time being until Duray should feel able to drive. His stout courage won him a big ovation as he set out once more.

The battle between Nazzaro, Hemery and Wagner, with Hanriot ready to participate,



KELSEY, MAXWELL, AWAITING THE WORD "GO"

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"CAR COMING!" VIEW OF THE CROWDED GRANDSTAND

grew desperate. With Nazzaro leading in the thirteenth, Hemery wrested second place from Wagner, the latter's stop helping to this result, although Hemery himself had had road difficulty, which had slowed him somewhat. Hanriot was fourth, with Hautvast in the No. 13 Clement-Bayard fifth.

The stands became packed with spectators again, to see the final struggle. Strang, Fournier and Rigal, while obviously no possibilities for first place, were fighting each other for sixth, seventh and eighth places, Strang driving hard from the last position.

In the fourteenth lap it was again Nazzaro, Hemery and Wagner, with but 29 seconds difference in time between the last two. In the fifteenth lap Nazzaro still led, with Hemery 1 minute and 52 seconds behind, and Wagner only 2 seconds after.

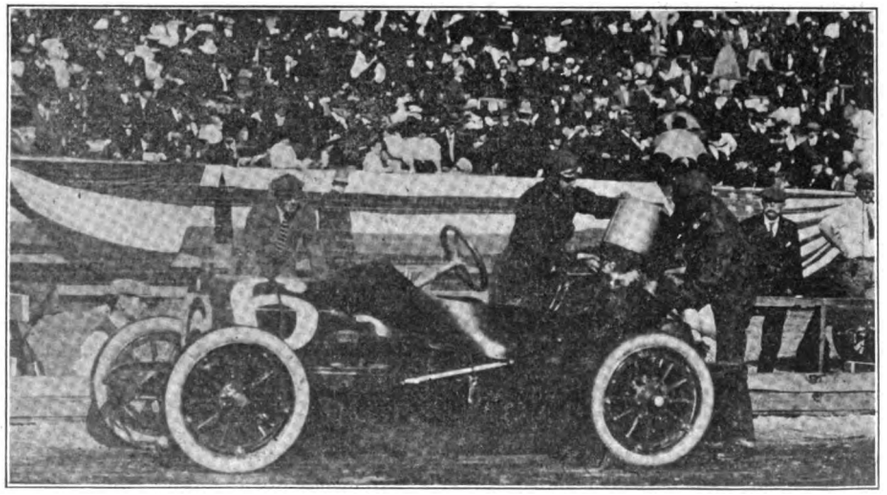
Coming down the stretch on the end of the fifteenth and the start of the sixteenth lap, Nazzaro, with dust begrimmed face but graceful and easy as ever, was running wide open, the signals at the pit giving him the flash that he was in the first position. De Palma's No. 18 Fiat came to a stop before the pits, to fix a tire. It got under way again just as Hemery was seen coming into the stretch, preceded by Strang, who was finishing his fourteenth. Because of the dust which Strang's Renault and the No. 18 Fiat were raising, Hemery had his circular dust screen up, attached at an angle to his steering post. His stocky shoulders hunched up, and his head bent sidewise behind the screen on his wheel as he tore through the dust without goggles, he looked the "speed demon" that he is, when fighting out a race. In due time, Wagner appeared for his last lap, too, with his engine singing in its highest key.

Nazzaro's victory was almost certain—unless something happened to his tires or mechanism.

"Hemery has passed Nazzaro!"

The message gave no further information, and the men at the telephone could get nothing more for the time being. E. Rand Hollander, of the Fiat camp, pleaded for details or a denial, or a substantiation, or something—anything! But his dismay and anxiety were unrelieved. The crowd could hardly believe the news. And then the surprise of it rather elated them and they strained their eyes down the stretch to watch for Hemery's coming to prove it. Each car that hove in sight set the watchers agog, but it was not until some of the tail-enders had passed that Hemery himself came into sight. On he came, a grin on his face and his mechanic waving both feet out of the car as a token of triumph. As he rushed over the line, the grandstand burst into one tremendous cheer, hailing him as the winner, while the Benz crew in the pits joyously flourished a big figure "1" to tell him of his victory.

The Fiat camp was very glum during the excitement, until it was recalled that Wagner had been only 2 seconds behind Hemery in elapsed time on the previous lap and still had 6 minutes in which to finish the winner, Hemery having started as No. 8 and Wagner as No. 14. This recollection came to the crowd, too, and everybody hastened to explain to his neighbor that Wagner still might win. Every one that had a stop watch took it out and started it, attempting meanwhile to estimate how many seconds back it was that Hemery finished. The owners of field glasses and binoculars called imperiously for their return, if by chance others had them, and every face was turned toward the distant point where Wagner would first come into view. The farthest flagman, after a seemingly interminable pe-



POOLE, ISOTTA, REPLENISHING AT GRANDSTAND.

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riod, mechanically raised his red flag and waved it slowly to signify the car's approach, and a moment later both Wagner and Nazzaro jumped into view almost side by side, but still too far away for those at the stand to tell which was which.

They came so fast, however, that soon the white-painted "14" on Wagner's radiator showed him to be in front, the car swaying terrifically because of its speed. Before the spectators could even cheer he had swept over the line, Nazzaro at his heels, sure of third place.

"Wagner wins! Wagner wins!" cried some of the amateur timers, but nobody knew for a certainty, and while waiting for the official announcement most of the spectators simply gasped with excitement, or marvelled with their companions that there could ever be an automobile race of 400 miles that would be so close in the finish.

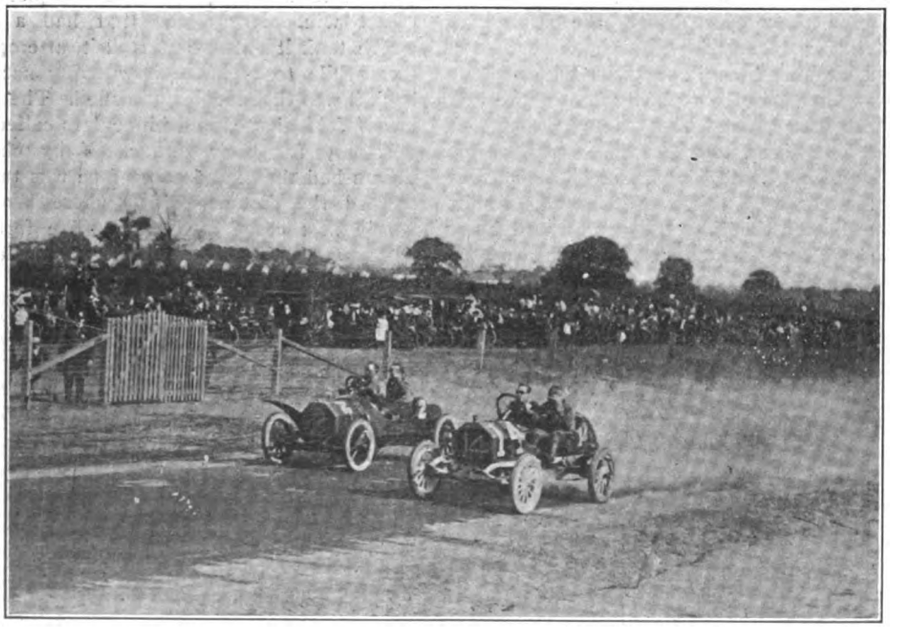
Hollander's pleadings to the timers to know the result were soon rewarded by a nod that Wagner had really won, the time at first being announced as 14 seconds, but later corrected to 56 seconds. Again the cheering was taken up, the new victor getting a demonstration such as had a few minutes before been given Hemery.

No sharper contrast between the Savannah and the Vanderbilt races could be given than afforded at this moment. Instead of a rush of thousands of people and cars out on the course, such as takes place at the conclusion of the winning of a Vanderbilt cup race, the Savannah course was as clear as the street scene drop which the vaudevillians describe as "Alexandria, Va., on a busy day." There was not a person on it. Even M. Garibaldi Coltelletti, representative and delegate from the Automobile Club D'Italia, loaded down with decorations and credentials and looking the part all over, was stopped by an impassive policeman when he tried to cross from the timers' stand to the Fiat pit to explode his exuberant congratulations. Other cars were still to finish, and until the race was called off by the referee the course would be kept clear.



HILLIARD'S LANCIA TAKING AN EASY TURN

During the chatter and tumult following Wagner's finish, most of the attention was directed beyond the line, looking for Wagner to return. Suddenly shouts of laughter and yells of encouragement went up when Hanriot's No. 15 Benz appeared before the grandstand with its motor silent and the car barely rolling toward the finish line, its two occupants humping back and forward together, trying to urge it along and shoving at the tops of the driving wheels with their hands. The car had run completely out of gasolene quite a distance down the stretch, but its momentum had been such that it had coasted in—so quietly, however, that very few noticed it at first. After a few despairing lurches and vigorous spats at the wheels, Hanriot and his driver found themselves over the line, the big machine coming to a standstill about four feet beyond the tape. The mingled laughter and cheers which were accorded the pair as they climbed out, met with a responsive grin from both driver and mechanic. Hanriot had landed fourth at the finish, and was satisfied.



HILLIARD AND EASTER ABREAST AT THE GRANDSTAND

Making his way back to the grandstand by an outsde road, Wagner shortly appeared at the Fiat camp. The discipline of the course was relaxed sufficiently to permit his car and himself being brought before the stand, where he was formally presented to the spectators as the winner, photographers and moving picture men busily training their batteries on him the while. The urbane Frenchman was given the congratulatory handshake by the governor of the state, the mayor and other officials, and went through it all with a smiling countenance despite the fatigue and physical soreness which the race had inflicted.

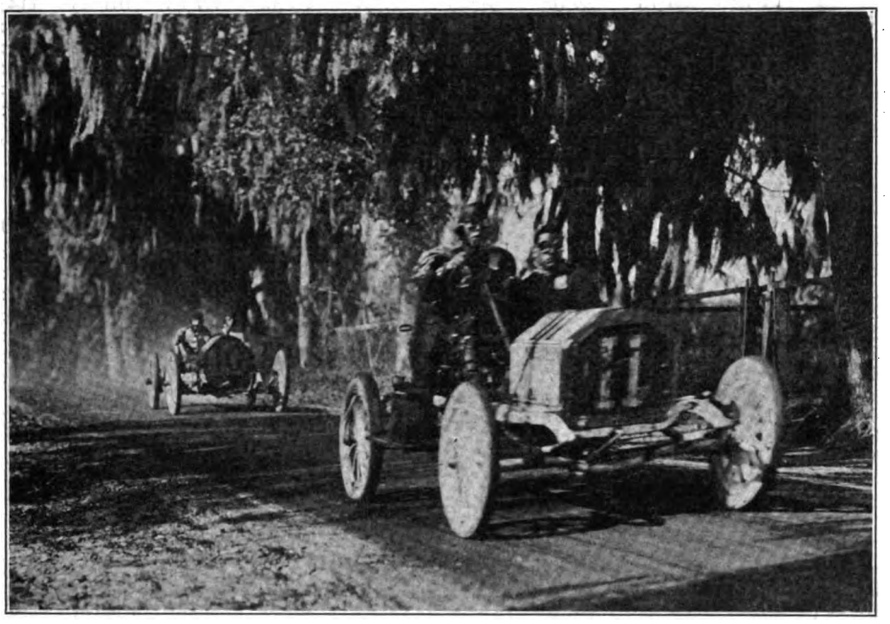
There were loud calls for Hemery, and the photographers and congratulators sought to lionize him also, but he declined to come forward, saying in French something to the effect that it was Wagner's victory and he should not be asked to "butt in," so to speak. He sat on the edge of the pits and turned his back on the "snapshot" men.

Hautvast, Strang, Rigal, Fournier and De Palma were allowed to finish, gaining places from fifth to ninth in the order given, and then the race was called off and the yellow flags waved around the course,

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Duray, again at the wheel, arrived at the stand and was flagged, after which he submitted to further treatment for the gaping wound in his arm, preliminary to going to the hospital. It was thought that no permanent ill effects would follow his injury.

Light Cars in Fast Contest



LORIMER IN CLOSE PURSUIT OF HEARNE

Seymour in the No. 3 Simplex had completed fourteen of the sixteen laps when the running was stopped, making the longest run of any of the American cars, and gaining a theoretical eleventh place.

Replying to eager inquiries, Nazzaro explained that one of his tires went bad during the last lap. He had used the one set throughout, and was not surprised that at least one of them should give way. He might still have made a replacement and come in a winner had not the new tire which he put on gone soft almost immediately, compelling him to stop again and make another change. His tires cost him 6 minutes altogether. When he stopped on the road he was surrounded by soldiers and others, who were anxious to assist him and whom he kept back with difficulty. It was even charged that when his jack sunk into the soft earth and he was trying to move his car and raise the wheels, that several people gave him a helpful lift. Numerous citizens asserted this to be the fact, with such positiveness that Herr Neumaier, of the Benz interests, later lodged a protest against Nazzaro's being awarded third place, on the ground that he had received outside assistance contrary to the rules. But at the official hearing Nazzaro denied the charge and explained his difficulty in keeping the crowd away, whereupon Neumaier promptly withdrew the protest. Rumors of a protest against Hanriot, alleging that his Benz received fuel elsewhere than at the one authorized supply station, were also in circulation, but were not followed by action of any kind.

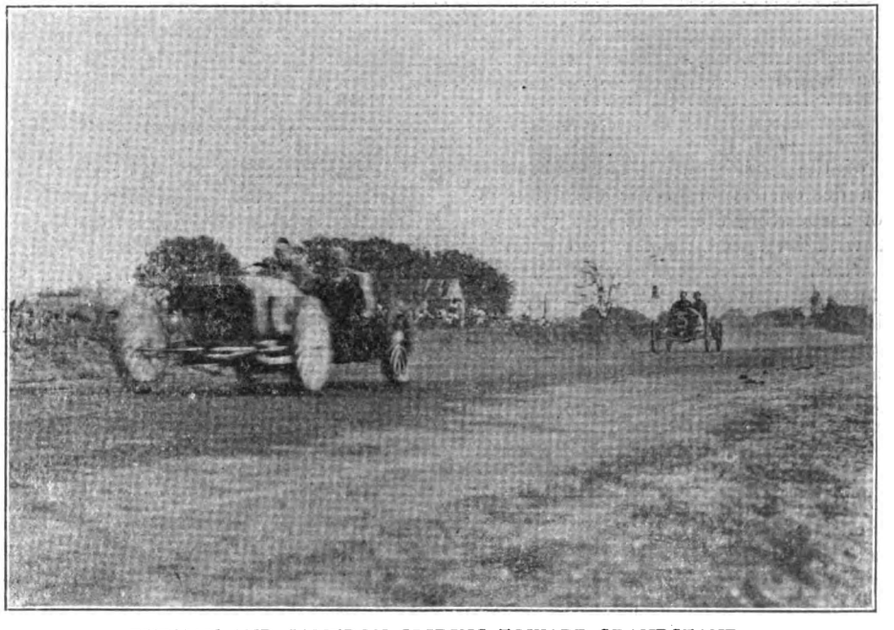
Serving as an appetizer for the big race, the light car contest on Wednesday attracted nearly everybody who had come to see the main event. Tickets to the grandstand had been sold on the basis of $3 for the two days, and those who had seats for Thanksgiving Day thus found that their coupons were good for the lesser event as well. As a result the stand was practically filled, but the roadside spectators were not overly numerous.

From a trade standpoint, the light car race was in many ways quite as interesting as the big race could be, as twelve of the fifteen contestants were of American makes enjoying more or less rivalry. The three foreign cars, too, by their presence indicated a trade tendency involving the effort to import small, medium price machines to bid for favor in the market against the domestic product. It was not a stock car race, however, which robbed it of some of the value it might have had as a comparative showing of well known models.

A smaller course than for the big race was used, being in the form of a rectangle 9.8 miles around, the cars being required to make 20 laps, or a total distance of 196 miles. The winner, a Lancia driven by Hilliard, covered the distance in 3 hours, 43 minutes, and 33 seconds, making an average speed of 52.6 miles per hour. The second car, a Buick driven by Burman, took 6 minutes and 12 seconds longer, while a Chalmers-Detroit won third place in 3 hours, 53 minutes, and 55 seconds.

Up to the tenth lap it looked like a walkaway for the specially built Buick, which had a 5 minute lead at that time, but a 9 minute delay put it back in second position and the Lancia was careful to keep it there. Examination of the record of the times later made it appear that the winning car had been held considerably below its speed possibilities during most of the laps, the driver preferring to open up only if it were necessary.

The short course brought the cars around with desirable frequency, sometimes three or four appearing together in the stretch and fighting their speed battles directly in



BURMAN AND CAMERON GLIDING TOWARD GRANDSTAND

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TABLE SHOWING ELAPSED TIMES IN LIGHT CAR RACE

No.	Driver.	Car.	H.P.	1	2	3	4	5	6	7	8	9
2	Hilliard	Lancia	12-18	11:43	22:25	34:16	45:32	56:55	68:15	79:32	91:15	102:14
8	Burman	Buick	18	10:58	21:52	32:43	43:31	54:30	65:12	76:01	86:55	97:51
10	Lorimer	Chalmers-Detroit	30	12:04	24:17	36:30	48:24	60:38	72:57	83:09	94:45	107:03
11	Hearne	Buick	18	11:48	23:35	35:20	47:26	59:17	72:03	82:41	94:16	105:27
6	Poole	Isotta	10	13:26	26:10	38:46	51:10	63:53	77:09	88:33	100:57	113:14
9	See	Maxwell	14	13:12	26:13	39:02	51:43	68:14	76:52	89:23	101:55	114:33
17	Kelsey	Maxwell	20	13:26	26:38	39:41	52:39	65:33	78:29	91:26	104:21	117:12
12	Costello	Maxwell	14	21:47	35:06	54:29	68:54	82:26	95:44	108:43	121:58	135:10
15	Muntweiler	Maxwell	20	13:17	26:22	39:16	52:12	64:14	77:59	90:44	103:28	115:54
14	Easter	Buick	18	11:54	23:16	95:00	106:16	117:33	128:41	139:51	150:57	162:04
3	Bergdoll	Chalmers-Detroit	30	13:08	25:51	38:07	49:08	62:28	76:07	88:31	102:35	126:42
5	Cameron	Cameron	18	14:10	25:20	36:27	47:28	66:27	Burned out clutch.			
16	Jeffers	Buick	18	12:02	23:10	173:54	Bent steering knuckle.					
1	Connors	S. P. O.	18	19:17	133:04	222:03	259:41	Out.				
13	Burns	Chalmers-Detroit	30	Ditched on first lap.								

No.	Driver.	Car.	10	11	12	13	14	15	16	17	18	19	20
2	Hilliard	Lancia	113:08	123:59	134:50	145:51	157:19	168:46	179:55	190:52	201:43	212:40	223:33
8	Burman	Buick	116:59	127:27	137:57	148:27	164:14	176:47	187:24	197:57	208:40	219:15	229:45
10	Lorimer	Chalmers-Detroit	117:41	130:41	142:23	153:01	164:03	174:59	186:30	199:13	212:01	222:44	233:55
11	Hearne	Buick	119:19	130:13	143:57	155:18	166:39	178:02	189:21	201:10	214:44	226:43	238:04
6	Poole	Isotta	125:38	138:06	150:35	162:50	176:48	189:28	201:50	214:11	226:37	239:00	251:22
9	See	Maxwell	127:16	139:46	153:53	166:33	179:52	194:00	208:03	220:26	232:53	245:14	258:38
17	Kelsey	Maxwell	130:55	144:48	157:32	170:27	183:17	196:10	208:58	221:55	234:55	247:56	260:44
12	Costello	Maxwell	154:45	165:45	178:50	191:55	205:06	221:09	234:26	247:44	261:07	*	
15	Muntweiler	Maxwell	128:23	140:44	181:22	223:08	235:51	255:55	*				
14	Easter	Buick	173:14	184:32	195:46	207:08	Ditched						
3	Bergdoll	Chalmers-Detroit	140:09	Out with valve trouble.									

* Running when race was called off.

TABLE SHOWING TIMES BY LAPS IN LIGHT CAR RACE

No.	Driver.	Car.	1	2	3	4	5	6	7	8	9	10
2	Hilliard	Lancia	11:43	10:42	11:51	11:16	11:23	11:50	11:17	11:43	10:59	10:54
8	Burman	Buick	10:58	10:54	10:52	10:58	10:59	10:42	10:49	10:54	10:56	19:08
10	Lorimer	Chalmers-Detroit	12:04	12:13	12:13	11:54	12:14	12:19	11:12	11:36	12:18	10:38
1	Hearne	Buick	11:48	11:49	11:45	12:06	11:51	12:46	10:38	11:35	11:11	13:52
6	Poole	Isotta	13:26	12:44	12:36	12:24	12:43	14:16	11:24	12:24	12:57	12:24
9	See	Maxwell	13:12	13:01	12:49	12:41	12:35	12:34	12:31	12:32	12:38	12:43
17	Kelsey	Maxwell	13:26	13:12	13:03	12:58	12:54	12:56	12:57	12:55	12:51	13:43
12	Costello	Maxwell	21:47	13:19	19:23	14:25	13:32	13:18	12:58	13:16	13:12	19:35
15	Muntweiler	Maxwell	13:17	13:05	12:54	12:56	12:02	13:45	12:55	12:44	12:26	12:29
14	Easter	Buick	11:54	11:22	71:44	11:16	11:17	11:08	11:10	11:06	11:07	11:10
3	Bergdoll	Chalmers-Detroit	13:08	12:43	12:16	11:01	13:20	13:39	12:24	14:04	14:07	13:27
5	Cameron	Cameron	14:10	11:10	11:07	11:01	18:59					
1	Conners	S. P. O.	19:17	113:48	88:59	37:37						
16	Jeffers	Buick	12:02	11:08	150:44							

No.	Driver.	Car.	11	12	13	14	15	16	17	18	19	20
2	Hilliard	Lancia	10:51	10:51	11:01	11:58	11:27	11:09	10:57	10:51	10:57	10:53
8	Burman	Buick	10:28	10:30	10:30	15:47	12:33	10:37	10:33	10:43	10:35	10:30
10	Lorimer	Chalmers-Detroit	13:00	11:42	10:38	11:02	10:56	11:31	12:43	12:48	10:43	11:11
11	Hearne	Buick	10:54	13:44	11:21	11:21	11:23	11:19	11:59	13:34	12:01	11:21
6	Poole	Isotta	12:28	12:29	12:15	13:58	12:40	12:22	12:21	12:26	12:23	12:22
9	See	Maxwell	12:30	16:07	12:43	13:19	14:08	14:03	12:23	12:27	12:21	13:14
17	Kelsey	Maxwell	13:53	12:44	12:55	12:50	12:53	12:48	12:17	13:00	13:01	12:48
12	Costello	Maxwell	11:02	13:03	13:05	13:11	16:03	13:17	13:18	13:23		
15	Muntweiler	Maxwell	12:21	40:38	41:46	12:43	20:04					
14	Easter	Buick	11:18	11:14	11:12							

front of the grandstand. These brushes gave a demonstration of the deceiving effect of associating the sound of a car's exhaust with its speed, as the two cylinder cars, which sounded slow compared with the buzz of the four cylinder machines, could be seen forging along quite as fast as their more rapidly pulsating rivals. This fact attracted almost general attention and precipitated many psychological discussions among the spectators on the deceptive elements of judging rate of travel by impressions received through the eye or ear. The phenomenon served to prove that accurate mechanical means are generally necessary to make any proper estimate of how fast a car is moving. Even the position of the occupants of a car was shown to affect the observer's unconscious estimate of whether a machine was running at fast or slow speed.

Having such a large field of properly prepared and representative cars, together with a course in every sense ideal for racing, the contest was more important and better than most races in which machines of this type are entered. The speed attained was worthy of cars of much greater size and power, but the spectators were so far removed from the path of the racers and the little fellows looked so small, that it was difficult for the crowd to develop more than a mild enthusiasm.

Most of the foreign drivers in the big race watched the small car struggle with a great show of interest, being particularly concerned about the fortunes of the imported entries, which included the Lancia, the Isotta and the S. P. O., which latter had been repaired just in time to start. It was Nazzaro himself, who in broken English sought a telegraph operator at the conclusion of the race, in order to send to Lancia in Italy a cablegram of congratulation signed by the drivers of whom he was once the team mate.

After wandering through the mazes of the wire fences, boarded pathways, turnstile gates and other devices for filtering the ticket holders into the proper channels and getting them to their seats, the first-time visitor at the Savannah course emerged from the lower caverns of the grandstand to a view of the long stretch of course in either direction. Under the brilliant sun the roadway glistened with oil, and looked so smooth and broad as to suggest almost unlimited possibilities for speed.

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Gathered in front of the stand were a fleet of spidery looking machines, most of which appeared to have red bodies and white wheels. Their drivers were in nearly all cases working away at adjustments and final preparations. Shortly before 11 o'clock the cars were swung into two lines, in numerical order, and Starter Wagner prepared to send them off. The No. 1 S. P. O., which on the previous Saturday had suffered an accident which resulted in the death of its mechanic, Marius De Rosa, and injury to Jean Juhasz, its driver, was at the head of the line. By hard work it had been put in running condition again, the work being completed only a few minutes before the start.



BURNS WRECKED

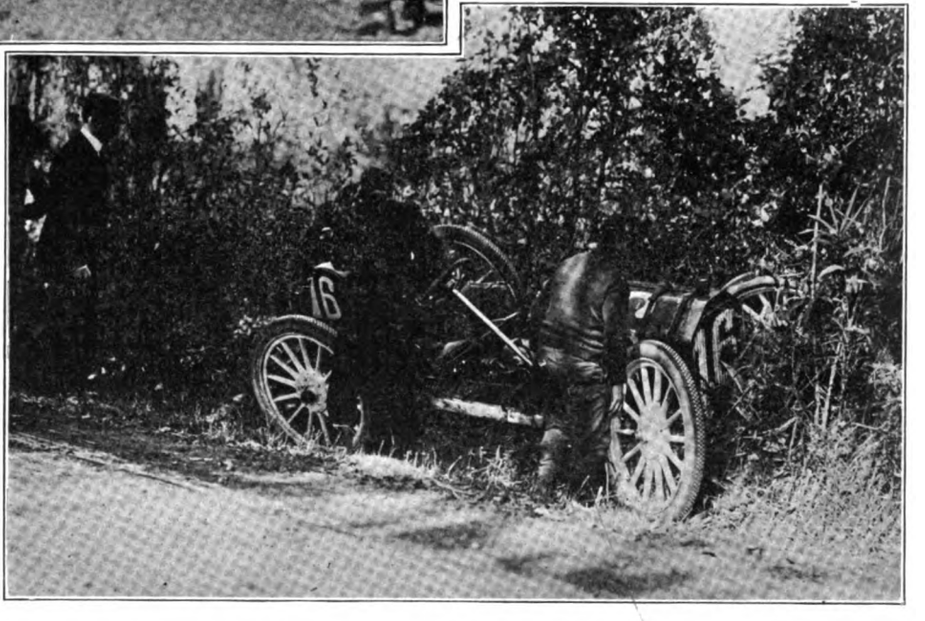
At half-minute intervals the cars were released, there being a lively racket of running motors, from the light hum of the "Baby Isotta," with its four tiny 2⅜-inch cylinders to the loud reports of the 5-inch two cylinder Maxwell engines. Following the S. P. O. came the No. 2 Lancia, which glided away very quietly, with muffled exhaust. The first American car was the No. 3 Chalmers-Detroit, driven by Louis J. Bergdoll, of Philadelphia, a millionaire through the brewing business and an automobile dealer and driver by inclination. There was a one-minute wait before the No. 5 Cameron, the only air cooled car in the race, was sent away. K. R. Manville, whose "American Aristocrat" had been assigned No. 4, had sent word that his speaiclly designed machine would not start.

When the "Baby Isotta," No. 6, driven by Al Poole, came to the line there was much amused interest in its high pitched engine sound and its low body lines, but it went singing up the course in pursuit of the others in a very business-like way. The No. 7 Gregoire, which Robertson was to have driven, having been withdrawn, Burman's No. 8 Buick was next, its underslung suspension making the wheels seem very big and giving the machine a racy appearance. No. 9 was Arthur See, in the first of the four Maxwells. Lorimer in a Chalmers-Detroit was No. 10, and another Buick, driven by Hearne, bore No. 11. The second Maxwell, a Chalmers-Detroit, a Buick, a Maxwell, another Buick and the last Maxwell completed the list.

First to appear in the stretch at the end of the initial lap was the Lancia No. 2, followed by Bergdoll's No. 3 Chalmers. Soon thereafter a car was seen coming at a surprisingly fast rate, and when it proved to be the No. 8 Buick the grandstand occupants set up a mighty cheer, as Burman had overtaken both the No. 5 Cameron and the No. 6 Isotta. The latter had gained on the Cameron, however, and crossed the line first. The remaining cars arrived in mixed order, the No. 1 among them, all but No. 13 Chalmers-Detroit completing the round. The hoodoo of its number had sent it into a tree at Montgomery cross roads, Burns, the driver, being slightly injured. He shed four teeth in the smash, but neither he nor his mechanic suffered serious results.

Again Hilliard in the No. 2 Lancia led over the line, with Burman's Buick right astern, having nosed out Bergdoll's No. 3 Chalmers which followed. The sight of three cars abreast coming at top speed in the stretch brought the onlookers to their feet. The "Baby" Issotta was in the center, flanked on one side by Hearne's No. 11 Buick and on the other by Lorimer's No. 10 Chalmers, both of the latter towering considerably above the infant in the center. Nevertheless, the little fellow asked no odds and gave them both a tussle. The No. 12 Maxwell, which had not finished its first round before the leaders had passed on the second, was again tardy, and the No. 1 S. P. O. was missing from the field.

By the beginning of the third lap the contestants were pretty well strung out, and in the fourth and fifth laps those in the forefront were worming their way through the ranks of the tail-enders of the previous rounds. At the end of the fifth lap, the Cameron drove up to the pits, and after its driver and mechanic had worked on it for some little time, the machine showed no signs of being in condition to resume, so it was wheeled out of the way. It was reported that the crank shaft was bent and the clutch burned out.



JEFFERS DITCHED

Patriotic joy was manifested by the enthusiasts in the grandstand when Burman's No. 8 Buick speeded ahead of the No. 2 Lancia in the stretch for the finish of the sixth lap. Yells and cheers encouraged the American car to leave the Italian product as far in the lurch as possible. In the seventh, eighth and ninth, the Buick still led, with the Lancia following next, but

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apparently losing ground. Only the No. 11 Buick, the No. 10 Chalmers and the "Baby" No. 6 were now able to count themselves as on the same lap with the leaders, all the others being one or more laps behind.

No Buick preceded Hilliard's Lancia on the tenth round, the car purring along in happy fashion all by itself. The lead of five minutes which the Buick had enjoyed was lost, and not until about seven minutes later did it appear, having taken 19:08 for the round as against 10:42 for its best previous lap. A lost rod nut had made it necessary for Burman to stop. The Lancia's net time showed an advantage of about four minutes.

For the next three rounds Burman set a furious pace, going faster than before, in his efforts to overhaul Hilliard, but in the fourteenth round he got another setback, in a stop which required a full five minutes. His fifteenth lap was slow, also, so that for the fourteenth, fifteenth and sixteenth rounds the No. 10 Chalmers, driven by Lorimer, was in second position, in point of time. The seventeenth lap brought Burman back to second place again, however, but although he drove to the limit of his car, finishing with a broken spring and a gasolene tank so loose the mechanic had to hold it in position, he was unable to get even a peep at the flying Lancia until the race was over. The Chalmers resumed its third position, which it did not relinquish.

From the twelfth lap to the finish, the relative positions of the five cars following the No. 10 Chalmers were unchanged. Hearne in the No. 11 Buick was unable to pass the Chalmers in spite of a hard fight and was kept in fourth place; Poole in the "Baby" Isotta held fifth from as far back as the eighth lap; See, in the No. 9 Maxwell, maintained sixth from the same point; Kelsey, in the No. 17 Maxwell, stuck to seventh, and Costello, in the No. 12 Maxwell, was in eighth place, until the race was called off.

Hilliard made only one stop during the whole 20 laps. He halted a moment before the grandstand to let his mechanic grab two cans of oil from the pits and rush back to the car, when he started off again. The mechanic was seen to take the cap off the oil tank and begin pouring in oil while the machine was gaining its full speed. Bergdoll in the No. 3 Chalmers got in the habit of stopping at the pit almost every round. His leisurely, millionaire manner of climbing out and deciding what it was he wanted to do, occasioned considerable humorous comment. After several stops he seemed to become enamored of the place, and could not be coaxed to start out again.

At about the middle of the race, Jeffers's No. 16 Buick, which had failed to come around after the second lap, made its appearance in the stretch, but running slowly with its two front wheels wobbling uncertainly. In the car the mechanic was holding up a badly bent cross rod of the steering mechanism, a makeshift substitute having been installed so that the machine could get back to the grandstand. The machine had gone off the road into the bushes, but without injury to its occupants.

By far the most serious accident of the day occurred to the No. 14 Buick on its fourteenth lap, as the car was rounding one of the sharp, banked turns on Estill avenue. The right rear wheel came off, sending the machine over the bank into the deep ditch. The driver, Hugh Easter, was no more than badly bruised, but his mechanic, Frank A. Thompson, was hurled into the road, where he rolled over and over after a long slide. He was picked up for dead, but medical treatment brought him back to consciousness before a great while. His injuries were serious, but not dangerous.

Other cars shed tires and cut a few minor capers, but ten of the fifteen were running when the yellow flags went up, although the No. 1 S. P. O., which insisted upon being counted as among those present, had only completed about four laps. The No. 15 Maxwell, driven by Munweiler, claimed ninth place, having made fifteen laps and being on its sixteenth.

When the official time for the first seven cars had been taken, and the race was announced as over, there was a lively rush on the part of the spectators to get back to the center of town, where restaurants could be found, as many had fasted since morning. The winning car was put on exhibition in front of the De Soto Hotel, where it was surrounded by large crowds until midnight. Meanwhile, the stolid negro convicts were put at work, repairing the course for the big event next day.

Fritz Erle, the unfortunate driver of the No. 19 Benz, built his own racing machine. He is a designer in the Mannheim factory and knows the Benz as no other driver can. With his own hands he assembled the car which he drove in the Grand Prize contest, and until the loose non-skid tread of his tire knocked him senseless, was well in front.

To reach the steamers which brought many New Yorkers and their machines to Savannah, it was necessary to cross the cotton wharves, where countless thousands of cotton bales are piled and where to be caught with a lighted cigar or cigarette means summary arrest. The police were kept busy warning visitors as to the regulations. Nevertheless, a dangerous conflagration was started on the wharves when some forty cars were driven to the docks for loading on the steamers after the race. One of the drivers lighted his lamps and threw the match on the ground where there was a pool of gasolene drippings. Oddly enough the owner of the car happened to be an insurance man. By a wise provision the Marten fire patrol had accompanied the cars, and one of its chemical tanks promptly extinguished the flames. The contemplation of the fire horror possibilities of the cotton wharves which the incident provoked resulted in the motorists taking extra precautions thereafter.

Had they really represented any papers, two press-stand victims of Military Commander Major William B. Stephens would have made that autocratic gentleman suffer for the abrupt and uncompromising manner in which he gave them the lash of his rigid discipline. After the shock of their encounter with him was over they filled the press stand with their wails, calling upon the gods to witness in Stephens the worst ever, and threatening to make him squirm when they should "hand it to him" in their dispatches to the "War Cry" and the "Police Gazette," respectively.

The unhappy sufferers were "Ned" Broadwell, of the Fisk Rubber Co., and L. D. Rockwell, the Metropolitan representative of the Standard Welding Co., both of whom were adorned with press badges as the representatives of a mythical "Michigan Syndicate, of Detroit." Their passes to cross the course limited them to the path from the grandstand to the press box, but their hasty reading of the wording construed a larger liberty, in fancied possession of which they wandered a-down the course beyond the dead line which the police and militia were maintaining.

They were promptly "nailed" and brought before the imperious major, who demanded that they give up their badges and get off the course altogether. To their first outburst of protest, he bellowed, "Not a word, or you go to the barracks!" The policeman who held them gripped a little more viciously, too, because unhappily he had been referred to as "this guy," when the protest was started, and the pair were distinctly "in bad" for the moment. Their personal friend, Robert Lee Morrell, the referee, being close at hand, they looked to him for help, his contribution being a friendly "You are doing quite right, officer."

Rescue from other influential sources came to hand, however, just in time to save them from ignominious ejectment, and when the vindictive policeman released his grip they hastened to get into the press stand, to which they stuck till the race was over.

Motor Parkway Time Trials Off.

As might have been expected, the foreign and American drivers who participated in the Grand Prize race, will not be seen in any series of time trials on the Long Island Motor Parkway, as had been planned before the Savannah event took place. The date set for the short distance speed trials, which were to be held under the auspices of the Long Island Motor Parkway Inc., was December 5, but inasmuch as the foreign cars were brought here with the understanding that they should participate in no other race than the Grand Prize, the time trials have been abandoned.

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BARS CIRCULAR TRACK RACING

A. A. A. Resolves to Discountenance Speed Contests on Short Courses—Proceedings at the Annual Meeting.

After prolonged deliberation lasting over two years the American Automobile Association has added one more proud distinction to its diadem by solemnly condemning automobile speed contests on circular tracks built for horse racing and of a mile or less in length, and declaring that it will have nothing whatever to do with them in future. By this means the question of whether or not races shall continue to be held over circular tracks is left discreetly to promoters of such contests who may choose between abandoning them or braving the mild taint of outlawry at the hands of the governing body.

The passage of resolutions endorsing this action was the most important feature of the sixth annual meeting of the association, held Monday last, 30th ult., at the national headquarters, New York City. Two protracted sessions were held; the morning one being that of the outgoing directors, and the afternoon a preliminary meeting of the the new board that took office on December 1. Both gatherings were largely attended; that in the afternoon including forty representatives of as many affiliated clubs. The anti-track racing resolution which was adopted after a prolonged discussion, is as follows:

Whereas, Automobile speed contests on circular tracks built for horse racing has ceased to serve any useful purpose; and whereas, such contests do not have the approval of the general public or any considerable portion thereof; be it

"Resolved, That speed contests by automobiles on circular tracks built for horse racing and of a mile or less in length be condemned by this Association; and be it

"Resolved, That hereafter this Association have nothing whatever to do with such contests."

In order to start "a binding force between the national body of individual motorists," as the Board of Directors terms it, the publication of a monthly official journal, is contemplated. The matter has been placed in the hands of a temporary publications committee.

Secretary Elliott's report was filled with statistics that showed among other things, that only 24 sanctions for track contests had been granted during the past year, as against 52 in 1907, while on the other hand, 20 sanctions were granted for hill-climbs against 5 of the previous year. No data as to the number of unsanctioned or "outlaw" meets was presented.

In the matter of membership, the report boasted 25 state associations as compared with 16 a year ago and 187 clubs numbering 20,000 members, against the 1907 list of 132 clubs of 17,000. Practically all of the northern states with the exception of Maine, New Hampshire and Iowa are now federated into state associations. Similar associations exist in California, Colorado and Oklahoma, while movements looking to state bodies are already under way in Iowa, Arkansas, Montana, North and South Dakota, Washington, Oregon, Louisiana and several other states.

President Hotchkiss' bulky valedictory touched upon the vital subjects of affiliation, otherwise the "national idea;" the growth in membership; and the leading events of the past year. Among them were cited: The good roads convention held at Buffalo last July; the practical endorsement by the National Grange of the legislative program of the Association; the decrease in track racing and increase of hill-climbing contests and the reciprocal relations established between the A. A. A. and the Motor Union of England, Automobile Association of London and the Touring Club of France in the matter of touring facilities. He concluded with a hearty tribute to the score or more of active men who had co-operated with him in his administration, saying that in the lfe-long friendships whch he had made, lay the compensaton for his work while in office.

Denver Climb Now Set for December 5.

December 5 is the date to which the Denver (Col.) Motor Club's hill climbing contest originally set for November 21, has been postponed. Lookout Mountain is to be the scene of the competition and as the course is nearly three miles in length and includes a maximum grade of 21 per cent. for a good part of the way, the Denverites expect to see a rather strenuous contest. The festest cars in each class will be declared winners, without resorting to high mathematics, piston area not entering into consideration.

New Date for Worcester Endurance Run.

The reliability and endurance contest of the Worcester (Mass.) Automobile Club, originally scheduled for December 8, has been postponed to Saturday, December 12. The exact route has not been decided upon as yet, but will be for a distance of about 200 miles, over five 40-mile trips radiating from Worcester as a center. Stringent rules will be maintained and at the close of the run a technical committee will examine minutely each "perfect score" car in order to determine the winner.

Oldfield Troupe to Perform at Tanforan.

Oldfield, Christie & Soules, star performers, will make their Pacific Coast debut on Saturday and Sunday, December 5 and 6, at Tanforan Park, San Francisco, Cal., where they will present their high class hippodrome act. The track meet will be under the auspices of the Automobile Dealers' Association.

HOTCHKISS AGAIN HEADS A. A. A.

Elliott Re-elected Secretary—Other Officers Chosen, Chairmen Appointed and Executive Committee Named.

After repeatedly declaring that he would not run again for office, Judge William H. Hotchkiss, of Buffalo, changed his mind at the meeting of the directors of the American Automobile Association yesterday (Wednesday), and was re-elected president. The other officers chosen for the ensuing year are: First vice-president, Lewis R. Speare, of Boston, Mass.; second vice-president, Ira M. Cobe, Chicago, Ill.; third vice-president, Frank M. Joyce, Minneapolis, Minn.; treasurer, H. A. Bonnell, East Orange, N. J.; Frederick H. Elliott being re-elected secretary.

Chairmen of the following boards were immediately announced by President Hotchkiss: Legislative board, Charles T. Terry, New York; Good Roads board, C. Gordon Neff, Cincinnati, O.; Contest board, F. B. Hower, Buffalo, N. Y.; Touring Information board, Powell C. Evans, Philadelphia. The following executive committee, in addition to the president, first-vice-president, secretary and treasurer and board chairmen, was named:

S. A. Miles, New York; H. O. Smith, Indianapolis, Ind.; William E. Metzger, Detroit, Mich.; Oliver A. Quayle, Albany, N. Y.; Paul C. Wolff, Pittsburg, Pa.; W. C. Crosby, East Orange, N. J.; James T. Drought, Milwaukee, Wis.; C. H. Gillette, Hartford, Conn.; Frank G. Webb., Brooklyn, N. Y.; Frank M. Joyce, Minneapolis, Minn.; J. P. Coghlin, Worcester, Mass.; L. E. Myers, Chicago, Ill.; Edwin S. George, Detroit, Mich.; John Bancroft, Wilmington, Del.; L. J. Powers, Jr., Springfield, Mass., and H. M. Rowe, Baltimore, Md.

In line with the policy announced some time since, the A. A. A. practically washed its hands of racing altogether by doing away with the racing board and vesting the functions of this committee in the contest board, of which Frank B. Hower, the czar of the last two Glidden tours, is chairman.

Denmark Limits Motoring at Night.

Danish motorists are considerably aroused over the provisions of an automobile law which recently came into force and which it is hoped to revise by a bill to be introduced into the Rigsdag before the end of 1909. The unpopular provision includes among other clauses a prohibition to drive at night except along roads entirely illuminated, from half an hour before sunset until half an hour before sunrise, and from August 15th to May 1st, inclusive. The speed limits are fixed at two Danish miles per hour for Copenhagen, which amounts to something like 9 English miles an hour, and in the open country at 4 Danish miles.

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RATING BY THE CYLINDER VOLUME

Riker Advocates Limitation of Stroke as Well as Bore—He Shows Disadvantages of the International Rule.

In explanation of the appearance abroad of a considerable number of "long stroke" engines as well as in some measure of defense of the method of rating adopted some time since by the Mechanical Branch of the Licensed Association of Automobile Manufacturers, Andrew L. Riker, its president, and also designer of the Locomobile winner of the recent Vanderbilt contest, has issued a statement dealing with rating in general and with the A. L. A. M. formula in particular. In this connection he also points out the inevitable trend which must follow the general adoption of the new definition which has been established by the European clubs of abnormally long stroke dimensions, which, he predicts, will be of practically no use for other than racing purposes.

"It is useless to expect that any large body of designers will ever be thoroughly in accord on any subject involving so many opportunities for detail differences as motor design," says Riker; "though years of experience have resulted in evolving a type of construction followed so closely in such a large number of instances as to warrant being termed current practice in this respect. . . . .

"The point might be made that a few of the racers built abroad for the 1908 season did not have abnormally long strokes. It is reported that the winner of the Grand Prix had cylinders of 6.09 inchs bore and of 6.69 inches stroke. But it must be considered that a 6.1 bore is large, a real racing dimension in itself; and in this case it was not found necessary to lengthen the stroke very much. Now for 1909 the bore is greatly reduced and in order to make a fast car, the designer is almost certain to build a very long stroke motor, like in the cars in the 4-inch race in England, or the voiturette race in France.

"What is to-day the position of the American manufacturer who has a desire to build a car that can win the Grand Prix of 1909? Simply this. He must build for racing purposes only, one or more freak cars. He cannot compete successfully with the foreigners unless he does. If he does not lengthen the motor stroke to some absurd length, his cars will not have the speed of the foreign cars; he will not be racing on equal terms with them, and will be beaten.

"Is it too late to gain a reversal of the rule? If the cylinder volume instead of the bore only, could be limited, it is certain that a large number of splendid fast American racers would be built and their performance prove the mettle of the American designer in a more impressive and conclusive manner than ever before. The present situation is more than unsatisfactory, but if it can be explained and thoroughly understood, that much at least will have been accomplished.

"There is obviously only one accurate way of determining the effective horsepower of any particular engine, and that is to try it on the brake. For the purpose of a general rating formula, an approximation, the only thing possible as well as sine qua non, will suffice. Owing to the many variable detail factors which affect the power developed by any engine, the whole subject is complex, and necessarily somewhat vague; and in one way, as evidenced by the views of people of varying experiences, experts, et al., controversy thereon is interminable.

"The A. L. A. M. horsepower formula was adopted after much consideration by, and the almost unanimous opinion of, the Association engineers. And I have been continually gratified by its adoption. Various bases for a standard rating were considered. Finally a formal vote of all the engineers was taken on the question of what is a fair conservative rating for a given size four cycle (single acting) motor at a given piston speed. One thousand feet per minute had previously been agreed upon as a proper piston speed to assume. The average view was so nearly in accord with the results of the formula theretofore adopted by the Royal Automobile Club of England (the diameter of the piston squared, multiplied by the number of cylinders, divided by the constant two and one-half, equals horsepower), that it was decided to adopt this formula; conforming to an existing standard, so avoiding further confusion in a subject it was sought to clarify. Superficial critics of this formula at times fail to bear in mind that the application of the formula recommended by the Association of Licensed Automobile Manufacturers, is based on one thousand feet per minute piston speed. Neither ought to be necessary to point out that a motor developing on the block, 33 per cent. more than the required power by the formula, is no occasion for surprise; it is looked for.

"The A. L. A. M. horsepower formula was not intended primarily to be used in racing, but there is no reason why it, or an analogous principle, cannot be used equally well as a basis of contests of any character. We see in the recent 'four-inch' race in England, in the decision to limit only the engine bore of cars entered in international racing, and in specially costructed single cylinder racing cars abroad, a marked encouragement of cars which would never be built for touring purposes only. The obvious sensible way of limiting the power of a racing motor is to limit the cylinder volume and not the bore or the stroke alone. The limitation of the engine bore under the Grand Prix rules is very wise, but the stroke also should have been limited; for engine strokes of freakish length are the inevitable result. The amount of compression pressure should also come in for consideration.

"All racing cars built abroad for the season of 1908, by virtue of an international ruling, were restricted in design as to their cylinder bore. For the Grand Prix and other events, intended for large cars, the bore was 6.1 inches; for the English Isle of Man contest, the limitation was 4 inches —thus the name, "Four Inch Race.' Similarly the bore of the cars constructed for the small car race run on the day preceding the Grand Prix were restricted. In spite of these limitations the cars were speedy and notably high averages were made. In fact the average time made by the winner of the Brescia Circuit is a new record, faster work than has ever been accomplished before with a motor of unlimited bore and stroke. The Grand Prix was won at an average of 69.2 miles per hour; the voiturette race the day before the Grand Prix at an average of 50.02 miles per hour.

"At first thought it would appear that the tendency to limit the size of racing motors in this manner is admirable, but when a study is made of the strokes of the foreign racing cars of 1908, it would appear that many of the motors are in reality freaks, particularly when it is considered that the short stroke motor is gaining ground all the time and that a few years ago when the bore was unlimited, the foreign designers made the stroke short in preference.

"For 1909 the Europeans have decided to reduce the bore still further, from 6.1 inches to 5.1 inches. It was hoped that some limit would be placed on the stroke because the Automobile Club of America in reply to the request of the racing powers abroad, advised a classification by volume, a most sensible thing. The wisdom of this plan should be obvious to all; it not only places four and six cylinder motors in the same class, but it encourages rational motor design and the building of cars that will have a commercial value after the races are over. A four cylinder motor of 5.1 inches bore and a reasonable stroke, say six inches, is a very good size. A manufacturer could easily turn such a racing car into a stylish and speedy roadster with little trouble; the result would be a car containing all the value racing can offer in the way of experience; and instead of a freak, would be a new logical model, perfectly tested. Just what a 5.1-inch motor with an extravagantly long stroke would be good for after the racing season, with the rules changing every year, is difficult to see."

Advantages of Covers for Lamps.

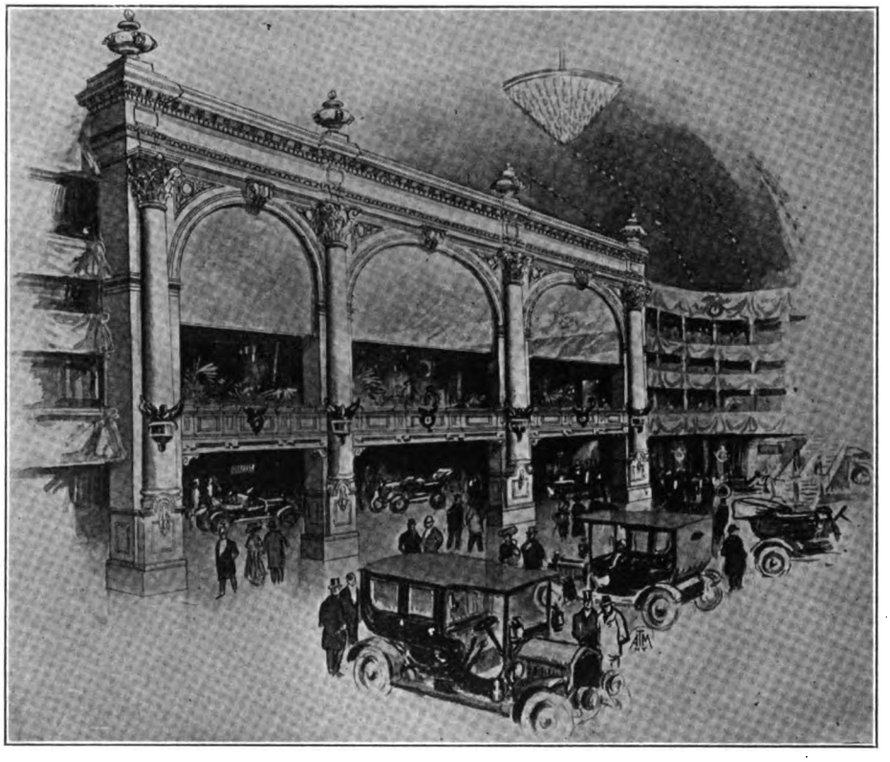
Aside from its advantage in preserving the polish of the exterior, the use of rubber or other protecting covers for dash and tail lamps is advisable since it tends to exclude mud and dust from the air outlets when the lamps are not in use. Otherwise they are liable to clog up with the result that the draught is very poor when they are lighted and considerable difficulty may be found.

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TRIUMPHAL ARCH FOR GARDEN

Decorative Scheme for the Show—Colossal Background that Apparently will Increase Area of Amphitheatre.

Like the elaborate "drop" which forms the background of a stage picture the decorative treatment of the Fourth avenue or rear end of Madison Square Garden always has been one of the chief cares of those who have arranged the settings for the various automobile shows which have graced that structure. Schemes embracing a wide variety of motives have been adopted and



TRIUMPHAL ARCH FOR THE GARDEN SHOW

marvelous as well as costly effects secured. That the range of possible variety has not yet been exhausted, however, will be proven beyond a doubt, when the doors of the vast arena are thrown open on January 16th upon the "Ninth National" show of the Association of Licensed Automobile Manufacturers. For this the most massive single piece ever introduced into the Garden will be utilized. It is to be a triumphal arch of colossal proportions which will occupy the entire end of the building, as shown by the picture.

Official figures as to the magnitude of the decoration give its height as 87 feet, and its total breadth as 48 feet. It will be supported by four Roman-Corinthian columns, each 3½ feet in diameter, one-fourth of each column being imbedded in the arch and three-fourths standing in free relief. Between the columns will be three bays, their arches just beneath the cornice and their bases at the balcony rail. In these bays will be massive plate glass mirrors, the center one twenty feet in width and each side one 19 feet across. These mirrors, being set at an angle with the tops inclining forward, will double the view of the whole interior of the main floor of the ampitheatre. On top of the arch, above each column, will be a huge decorative urn, while swinging on chains against the face of each column, at the balcony level, will be great bronze lamps, while liberal use will be made of smaller individual bulbs. The balcony face, which is all in plaster, will be set off by one of the "eagle-on-a-wheel" emblems, which will form an important part of the decorating scheme. This triumphal arch will be a sort of background and support to the whole decorative layout of the main floor of the Garden, the decorations in the foreground being subordinate to it in their height.

Statistics of the Olympia Show.

Final statistics of the Olympia show in London, which closed last Saturday, 21st ult., show that 525 vehicles were on exhibition including complete cars and the chassis of pleasure cars only. Of these 511 were gasolene propelled, 2 electrically and 12 were steamers. Eight foreign nations were represented in the products, the total foreign showing almost equaling that of the domestic product. The very general decline in the use of chain drives was shown by the fact that out of 140 stands, only 23 staged chain driven machines. The actual numbers of chain and shaft driven models were respectively 54 and 467.

PARIS SALON SHORN OF SPLENDOR

President Fallieres Rides Behind Horses to the Opening—Prominence of Light Chassis an Interesting Feature.

Perhaps it was significant of changing conditions in the Parisian capital that President Fallieres arrived at the Grand Palais in a horse drawn vehicle on Sunday morning last, instead of in an automobile. His visit was the occasion of the opening of the eleventh annual Salon, and the circumstances was widely commented upon. The ceremony of the official opening was attended with the usual pomp and pagentry.

Of the show as a whole, it is fully admitted that the former days of superlative grandeur have given way to a period of almost sombre economy. Among the decorations, from the embellishment of the Grand Palais itself, to the mountings of the individual exhibits, many of which are reproduced from last year, there is less of the flamboyant tone of former shows. The external decorations are concentrated at night upon the exhibition building itself, and the effect secured is at once novel and pleasing. But the blaze of light which used to greet the visitor is no longer found.

Due both to the fact that there are fewer exhibitors than heretofore and that there is a dearth of startling developments, the show is further robbed of its old supremacy. Among mechanical achievements, practically the only mechanism of noteworthy significance is the Silent Knight engine which has been tentatively adopted by several of the European makers.

Whatever of "trend" is discernible from a hasty first glance at the exhibits leads to the impression that the annual buyer is being catered to more than ever before. Or, which is the same thing, that the vehicle of medium and low price has attained a vogue which is wholly without precedent. The light chassis of many of the old line makers are receiving due comment both for their excellence and the very fact of their existence. Two and four-cylinder models suitable for either runabout, touring or cab service are in great abundance. These, indeed, constitute the real feature of the show. Aside from these, however, several improved six-cylinder models are to be found, while for the limited field which is still discernible in the market for luxurious machines, the French body makers have outdone themselves in hitherto unequalled attractions.

In the field of accessories the flood of novelty and eccentricity appears to flow on unchecked, despite the unstable condition of the car building sections of the local industry. It is yet too early to compare this section of the show closely with corresponding portions of previous Salons, but the first impression is that it compares favorably with them.

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STEPPING TOWARD UNIFORM LAWS

New England Governors-Elect Derive Light from Boston Convention—Automobiles and Good Roads Discussed.

First fruits of the convention of governors held in Boston on Monday and Tuesday of last week, are expected in the form of recommendations from the respective governors-elect of the six New England states in connection with their inauguration speeches on January first. In common with the movement for universal state laws and the conservation of the natural resources of the country, which formed the chief topics of discussion the regulation of the highways and the control of automobile traffic came in for due consideration. The movement for a uniform enactment for the government of the motorist received a welcome impetus in this connection.

Among the definite requirements cited by the various speakers were: the abolition of speed traps, which were characterized as "local political affairs"; the appointment of state officers whose duty it shall be to regulate the speed of automobiles; a law requiring that all vehicles carry a light when on the road at night and the "taking off the road of the reckless and drunken operator."

Speaking of the imperative necessity of fostering the movement for improved highways, ex-Governor Batchelder, of New Hampshire, said:

"Whatever else is done to promote the mutual interests of the New England States, there must be established a system of interstate highways which will render the most remote districts accessible to tourists.

"The farmers believe that this is a purpose to which a part of the national revenues derived from taxes paid largely by them should properly be devoted, and they insist that the highways of the country are entitled to as much consideration as our waterways. They realize that the financial condition of many of the states will not permit of their making the large appropriations necessary to meet the urgent demand for better roads, and, therefore, are endeavoring to secure recognition of the principle that Congress should by legislation provide a part of the funds needed for road improvement.

"Closely allied to the question of good roads is that of the regulations governing the use of the highways by automobiles.

"The extent to which this right was disregarded by reckless drivers of automobiles, forced the farmers in self defense to seek legislation fixing the rate of speed of these vehicles."

Definite suggestions as to the requirements of a universal law were made by Francis Hurtubis, Jr., counsel for the automobile associations, speaking from the floor, who ventured the opinion that a uniform law suited to the general requirements of all could be constructed out of the best elements of laws already existant. He enunciated six cardinal principles as requisite to such a measure. First among these he placed the requirement for universal lights upon all vehicles.

Uniformity of the clauses relating to the operation of motor vehicles by non-residents of the respective states; the elimination of local restrictions in favor of the general law; the abolition of "traps"; the absolute control of all questions of the administration of the motor vehicle law by state officials, properly constituted, as for instance, the highway or road commissions; and the reduction of the speed laws to a uniform basis; were the other points he emphasized.

"My opinion is," he said, "that if each of the New England States were divided into a number of districts, each district in charge of a state police officer having under him one or two or more assistants, all mounted on motorcycles, whose duty it was to prevent fast or reckless driving in their respective districts, I believe the problem would be better solved than by a few towns establishing and working 'traps.'"

Formal addresses were made by Harold Parker, C. E., delegate to Paris International Congress on Roadbuilding, and chairman of Massachusetts highway commission, who spoke on "The Construction of Highways"; James H. MacDonald, president American Roadmakers' Association, and commissioner of highways of Connecticut, whose topic was "Trunk Lines of Highways for New England," and Nahum J. Batchelder, master of the National Grange, Patrons of Husbandry, and ex-Governor of New Hampshire, on "Automobiles and Their Regulation."

Restricting Vehicles on Yale Campus.

Yale campus is to bar automobiles during a large portion of each week. The new regulations provide that the college grounds at New Haven, Conn., shall not be open to machines except from 1 to 4 p. m., on Tuesdays and Thursdays, and from 10 a. m. to 1 p. m. on Saturdays. The restriction also applies to other vehicles as well, including milk and laundry wagons, express carts and the like. It was claimed that the constantly increasing traffic on the campus disturbed the students at their recitations.

Insurance Men May Bar Night Riding.

A clause to exempt the insurance companies from having to pay on automobile policies where the accidents occur between midnight and 6 a. m., is a recent proposal, due to the results of "joy riding" mishaps. A number of underwriters have prepared statistics on the subject and claim to find that a big percentage of the automobile accidents take place "at an hour when the daredevil spirit rages," which, more specifically, is after midnight.

ADAPTING TAR TO USE ON ROADS

Why It has Proved Injurious in Some Localities—Elimination of Soluble Elements a Necessity.

French prejudice against the use of tar is not shared by English road experts. It is thought that the baneful effects the tarring of Paris boulevards had on the neighboring trees and shrubs was due to the fact that the tar used had not been properly prepared to free it from its soluble components and that the latter, which are very harmful, washed out with the sprinklings and rains and attacked the roots of the surrounding vegetation.

On this point a British authority, Colonel Crompton, says: "Tar fresh from the gas works is totally unsuitable for using on the roads. It contains a proportion of soluble matter which may run off with the surface water and do considerable injury, even killing fish if it gets into streams. Then, too, the ordinary tar splashes and ruins dresses and fabrics. These facts have caused considerable prejudice against tar preparations among many land owners and country residents. Methods had to be found of removing the soluble matter without going to the other extreme and making the coating brittle. There are now various ways of doing this.

"The Roads Improvement Association's experiments showed that roads can be made dustless by applying one gallon of tar to every four superficial yards, costing about $200 a mile for an average road,. We found that satisfactory results could only be had by giving much heavier dressings than were formerly considered necessary.

"This tar dressing so adds to the wear-resisting qualities of the highway that so far as can be now seen it will more than repay its cost by the saving it effects in road maintenance. But it is not possible to speak finally on this point until the tarred roads have been laid down for a longer period."

Steamboat Aids in Hill Climbing.

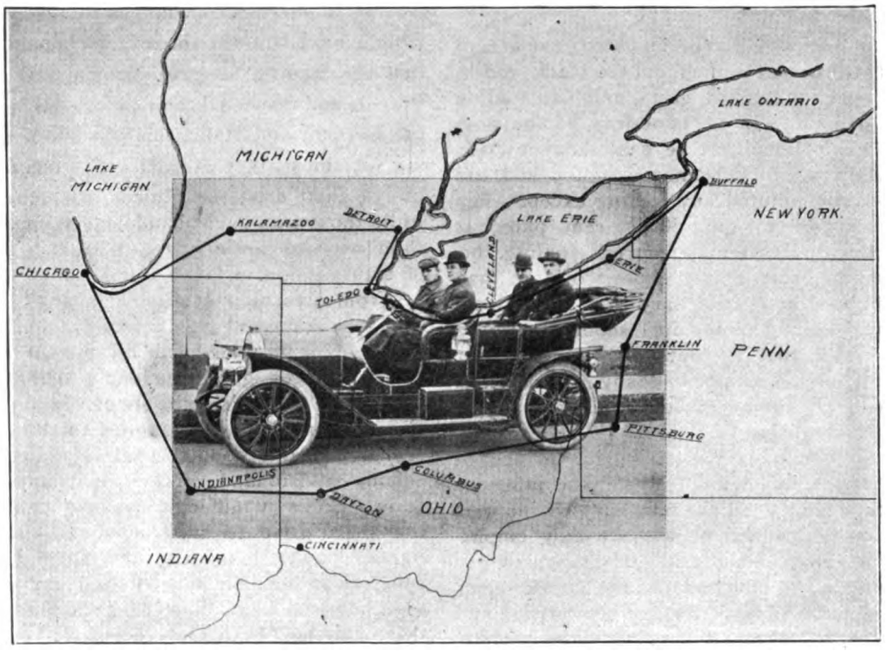
Assistance in difficulties is sometimes obtained from the most unusual sources, as was impressed upon a western motorist when his machine encountered a terrifically steep hill at Blueslide, Washington. The hill is one of the worst in the section, both in steepness and in the slippery condition of its surface. The car was unable to negotiate it, but the captain of a river steamer which was lying at the adjacent wharf came to the rescue. He fastened a tackle block at the top of the hill and attached a line to the touring car. The other end of the rope was wound around the steamboat's capstan, and all hands were piped to the fore deck. With a yee-ho the capstan was revolved and the motor car climbed.

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LONG TOUR AS A DEMONSTRATION

New Stoddard-Dayton Model Covers Route of 2,164 Miles—Traveling Exhibit Visits Cities in Five States.

One time, makers and agents were quite satisfied when a prospective customer could be given a demonstration run over local highways amounting to not over 10 or 15 miles, so long as it passed off without criticism. Changing conditions have brought about a situation in which, though the popularity of the agents' demonstration to the individual prospect is passing into more or less restricted status, the manufacturers' demonstration to his agents and to the public at large has attained a vast popularity. Thus by way of introducing the new Model "9 H" Stoddard-Dayton car, the Dayton Motor Car Co., in addition to placing their own demonstrators in the hands of their individual representatives, sends out its own traveling exhibit in the hands of a factory expert to a tour of a dozen cities or so, in five different states, and to the tune of somethink like 2,000 miles of travel over all sorts of roads.



STODDARD-DAYTON DEMONSTRATORS AND THEIR LONG ROUTE

The trip has just been completed, and as the accompanying picture shows, passed off without visible effect upon the car. The points covered were: Indianapolis, Chicago, Kalamazoo, Detroit, Toledo, Cleveland, Erie, Buffalo, Franklin, Pittsburg, Columbus and return to the Dayton home of the car. The total mileage of the trip, including side demonstration runs in several of the stopping places, amounted to just 2,164 miles. The total gasolene consumption for the journey amounted to 112 gallons, or an average of 19.36 miles per gallon, inclusive of all motor running. The car was absent from Dayton exactly one month.

Farmers Want Buggy Type Vehicle.

In what degree the automobile is supplanting horse drawn vehicles was the substance of the main question before the tenth annual convention of the Tri-State Vehicle and Implement Dealers Association, at Cincinnati, O., last week. Almost every dealer at the convention had ideas on the subject, and the consensus of opinion was that while the motor car is undoubtedly cutting into the sale of the larger vehicles, such as carriages, the demand for light buggies, runabouts and phaetons has not been affected. The delegates took up the matter of handling the small buggy type automobiles, and it was shown that farmers are taking very kindly to the machines and that the vehicle dealers will find it necessary to get into this field

To Prevent Screw Threads Rusting.

A mixture of graphite flake and grease applied to screw threads is frequently recommended as tending to prevent the adhesion of the parts due to rust or expansion from heat. Rather a novel recommendation in the same line is to the effect that mercurial ointment similarly applied serves an equally useful purpose. It was formerly employed in marine steam engine practice in cases where the parts of the piston were threaded together. Some such provision should be made on all brake and radius rod connections about the car and any other parts which, though occasionally requiring adjustment, are ordinarily left to themselves in all weathers.

ELECTRIC IN STRENUOUS TRY-OUT

Testing Tour from Lincoln to New York City Successfully Made—Mountain Roads Negotiated en Route.

No small achievement was marked by the arrival in New York City on Saturday last, 28th ult., of Oliver P. Fritchle, who left Lincoln, Neb., on November 1st, in an electric victoria of his own design, with which he made the entire journey of 1,800 miles. The tour, perhaps the longest ever attempted with an electric machine, was made partly with the object of selecting a suitable site for a factory to be erected for the manufacture of more of these cars, and partly to demonstrate that the electric automobile is practicable for long distance touring.

Fritchle is a chemist and electrician of Denver, Col., and the car has a maximum of about 10 horsepower, is geared so that it is capable of making 19 miles per hour under favorable road conditions and will travel 100 miles on one charge, although it is said to have covered as much as 125 miles at one stretch without replenishment in open country, and 150 on city streets. While the inventor proved that it was possible to drive his car a long distance, averaging between 70 and 90 miles a day, he doubts whether anyone other than an experienced electrical expert would have succeeded.

Leaving Lincoln, he set out direct for Pittsburg, Pa., pushing his way through miles of rugged Iowa roads. In Illinois he found conditions somewhat better and at Chicago, hit the trail of the 1907 Glidden tour. This meant the crossing of the Allegheny Mountains, and the Laurel and Blue Ridges that have proved difficult for gasolene cars more than once. In the latter part of the trip the route of last summer's Glidden tour was taken up and the run to New York made via Philadelphia—the last stretch on a single charge.

On the trip Fritchle was accompanied by W. P. Pfaff, of his firm at times, but as a rule the latter acted as the advance agent of the expedition, arranging for charging stops. According to the driver, only once on the whole 1,800 miles was it necessary for the car to be towed, and that was due to misdirections. This occurred in a remote section of Iowa, when he was within two miles of the charging station he was endeavoring to reach. Difficulty in obtaining "juice" was frequently encountered and on numerous occasions, Mr. Fritchle was obliged to do all the work of charging at lighting plants and power houses. In one Pennsylvania mining town, he even earned a fresh charge for his batteries by repairing the electric plant of a "nickelodeon." A remarkable feature of the trip was that it was made on a single set of Goodyear tires, and that but one puncture was encountered during the entire journey.

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THE CHARACTERISTICS OF BENZOL

Its Possibilities as Fuel for Internal Combustion Engines—Synopsis of Tests in Comparison with Gasolene.

Efforts to perfect the introduction of Benzol as a motor fuel abroad have thus far been about as successful as the attempts made in this country to popularize the use of denatured alcohol for the same purpose. Despite numerous tests and a reputed actual use of the fuel in practical ways to a limited extent, the majority of motorists and more particularly the automobile manufacturers still remain indifferent to the possibilities held out by this plentiful by-product. How great these possibilities are, as well as how improper carburation has led to an erroneous impression as to its properties as a fuel, is shown by M. A. Grebel, in a paper read before the Societe des Ingenieurs Civils de France, and also in a discussion of the relative merits of benzol and gasolene published in Le Genie Civil.

A condensed summary from these two sources shows that almost all benzol is produced as a by-product in the manufacture of coke, the process of extraction from the waste gases consisting of dissolving the crude benzol in heavy oils and later recovering it from the solution by distillation. It is then rectified by the removal of carbon bisulphide, tar, naphthaline, and other impurities, and a final purification is obtained by washing with acids, soda and other reagents. If the benzol is intended for use in automobile motors, this purification must be very carefully performed. If it is improperly carried out tarry products are left which interfere with the proper working of the carburetter and give rise to obnoxious and corrosive fumes. About five kilograms or 11 pounds of rectified benzol are recovered per ton of coal coked. In the present state of the industry, France, Germany, England and Belgium produce large quantities of benzol annually, but the amount could be largely increased in all countries.

The comparative physical properties of benzol and petrol, according to Grebel, are as follows:

	Benzol.	Gasolene.
Density	.885	.700
Calories per kilogram.		
Calorific power	10,033	11,464
Calories per litre.		
	8,879	8,025
Degrees C.		
Freezing point	—6 to —8	—100
	Grammes	
Quantities of fuel added 1 litre of air at 0 deg. C. and 760 mm.	.09615	.08434
	Cubic centimeters.	
for theoretically complete combustion	.10864	.1205
Degrees C.		
Vapor tension at 20 deg. C.	122	296
Temperature of boiling	81	50

The close similarity between benzol and petrol has been the cause of many disappointments and vexations. It has led to the belief that benzol could be simply substituted for gasolene without any difficulty, and it must be admitted that by accident certain motors have worked well for a time within certain narrow limits of speed. In cases where bad results have been obtained, however, they have been hastily and erroneously attributed to the fuel itself. Benzol, indeed, presents many points of similarity to gasolene, but it is distinguished from it by various characteristics, of which account must be taken in the design of carburetters and in the regulation of ignition.

The principal charge made against benzol is that it causes fouling, but the black smoke, the odor of burned gases and the fouling are due entirely to imperfect combustion. Grebel declares that he has made upwards of 200 tests on a Panhard motor and has never encountered any fouling except when testing a benzol only 50 per cent. pure. It is an easy matter to prevent fouling, because, in order that a deposit of soot may be formed, it is necessary that the proportion of benzol in the fuel should be raised to double that theoretically necessary for complete combustion. Many carburetters, however, make an explosive mixture imperfect to a degree that would be believed impossible without the striking evidence of analysis of the waste gases. The influence of the mixture on the efficiency of the benzol motor cannot be too strongly emphasized. Even when the exhaust gases are colorless and odorless and the motor seems to be working perfectly, the combustion and consequently the efficiency may be relatively poor.

The investigations referred to have shown that the minimum specific consumption corresponds to a percentage of carbon dioxide in the exhaust gases of 14 in the case of gasolene and 17 in the case of benzol, without excess of oxygen and without carbon monoxide. These are the highest percentages attainable in practice, though the theoretical percentages of complete combustion are 14 and 17.4, respectively. The maximum of power is found at about the point of maximum explosibility which corresponds to the highest explosive pressure. This is given by a mixture slightly richer in benzol than the mixture for theoretically complete combustion. With the mixture giving maximum power, about 1½ per cent. of carbon monoxide is found in the burned gases. In Grebel's tests the minimum of consumption has always been found to be attained when the air actually introduced bears to the air theoretically necessary the proportion of 1 to 1.1. This differs considerably from the proportion of 1.3 to 1.7 recommended some years ago by Sorel and adhered to by many builders through fear of the results of a shortage of air which possibly might occur under certain conditions.

LEANING TOWARD SHAFT DRIVE

Ferguson Finds a Strong Movement in This Direction in Foreign Factories—Plain Bearings Regaining Favor.

A continuance of the growth in the use of propeller shaft transmissions and a tendency among makers who have been using ball bearing crank shafts to return to the use of plain bearings for that purpose, are the two trends most marked in the foreign field just at present, according to David Ferguson, mechanical engineer of the George N. Pierce Co., who has just returned from a brief sojourn abroad. Ferguson visited the leading factories of England and France, and inspected the new models which the German and Italian makers are preparing for the market of 1909. The increased use of shaft drive, he notices in particular, while those who have abandoned chain drive show no disposition to return to that form of transmission.

"From present indications," he says, "not over two years will pass before every maker of any great prominence in Europe will have abandoned for good the chain drive and installed a shaft drive in all of his models. This movement is not confined to the makers of any one country, but is noticeable equally in England, France, Germany and Italy. Some manufacturers have confined the shaft drive to their new and usually lighter powered models, retaining practically their former construction for their high powered cars. The change to the shaft drive for their high powered cars is only a matter of a short time. Other makers, on the other hand, have made the change throughout their line at the same time. There has not been a single change from the shaft to the chain drive that I have heard of.

"The most prominent general tendency aside from the matter of final drive is the reversion to plain bearings. Several years ago two manufacturers, one French and the other German, both of whom stood high in their own countries, adopted ball bearings for the crank shaft. The outcome of their policy was watched with a great deal of interest by automobile makers throughout the world. This year marks the definite abandonment by them of their experiment and their return to plain bearings from one end of the crank shaft to the other.

"So far as actual business goes," he concludes, "the foreign manufacturers have had a rather dull twelve months, but affairs now appear to be in better shape and a number of factories are running at capacity."

"The A B C of Electricity" will aid you in understanding many things about ignition that may now seem hard of understanding. Price, 50c. The Motor World Publishing Co., 154 Nassau Street, New York City.

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NOVELTY IN FOUR CYCLE TURBINE

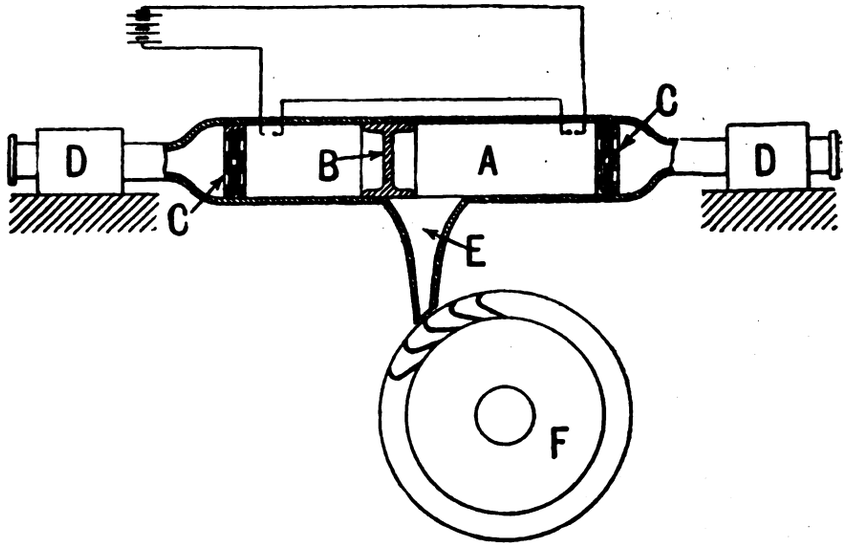
Young French Investigator Produces Design Utilizing Reciprocating Piston—Fresh Adaptation of an Old Idea.

Development of the gas turbine idea up to this time has produced comparatively few devices of noteworthy merit. Despite a considerable amount of effort along this tempting line, practically no systems have been produced which appear to promise much for the future, while many of the arrangements constitute what are actually embodiments of schemes which long ago saw the light in one form or another as intended for use with steam. The fact that the turbine principle introduces difficulties which are not met with in ordinary gas engine construction ordinarily, however, does not deter inventors from continuing their investigations, and happily they are continuing to produce results which though impracticable as it may seem just now are paving the way for later products which are likely to be granted a greater measure of success as the earlier efforts are used as stepping stones.

In this connection, considerable interest has been aroused in foreign circles by one of the latest productions of R. Esnault Pelterie, the young French investigator whose five and seven-cylinder V-shaped motors for aeronautical work are among the few "features" at the Paris Salon. His studies of the turbine principle have resulted in a design which, so far as is known, is absolutely novel, and which aside from its interesting qualities as aclever study, introduced several rather fruitful possibilities.

Roughly speaking, the scheme may be said to be that of the exhaust turbine employed as an adjunct to the reciprocating engine of the usual four-cycle type. Only in this instance, the reciprocating piston does no external work whatever, and is merely used to establish the action of the cycle, while its movement also serves to open communication between the outlet to the turbine and the two cylinders alternately. In this respect the system is unlike one which has received consideration before, in which the use of the turbine was intended merely as an adjunct to the reciprocating engine and as an economizer for the energy ordinarily going to waste through the exhaust.

The accompanying illustration is given by the Autocar as showing diagramatically the way in which the turbine action is secured without sacrificing the four-cycle principle. The engine construction comprises a very long cylinder, A, in which is mounted slidably a piston, B, free to reciprocate practically from one end to the other. Midway between the two ends of the cylinder is a port leading to a nozzle, E, which is placed in proper relative position to drive the turbine wheel, F. Obviously, the movement of the piston alternately opens the two ends of the cylinder to the nozzle. As each end of the cylinder is made to act as a separate cylinder, actuating a cycle in every respect similar to that of the common or Otto type of engine, it is evident that alternate blasts of burning gas are driven down against the turbine to perform work in driving it.



Two chambers, D, are used in carburetting the air as in the ordinary gas engine, and the charge enters the chamber at either end through the valves, C. The action is readily understood. As soon as a charge has been ignited by means of the ordinary jump spark, the piston is driven violently forward toward the other end of the cylinder, thereby compressing a charge of gas which already has been drawn into the combustion chamber. As the piston passes the central port, release occurs, and the charge is permitted to expand and escape into the turbine nozzle.

The manner in which the cycle is completed is rather intangible, but according to the patent specifications consists in inducting the fresh charges as a result of the formation of a partial vacuum behind the outgoing charges, brought about by the combined effect of its own inertia and the movement of the piston beyond the port. The effect secured in this way, therefore, is that of a very rapid succession of impulses, which probably permit the turbine casing to clear itself better and allows of a lower mean temperature in the blades than would be possible were the blast of hot gas continuous.

Safeguarding Control for Electrics.

With gasolene cars there is a big record of accidents resulting from the change gear lever being moved from neutral to engagement by meddlers while the car is left unattended, resulting in the machine's jumping forward when the engine is started unless the driver has been careful enough to examine the position of the lever, and similar accidents with electrics have followed where the control lever has been pushed to the high speed position in the operator's absence. Upon inserting the connection plug the person driving the machine would be surprised to find it dash forward on the instant. A woman was recently dragged some distance and knocked unconscious when she placed the plug in position preparatory to stepping into her runabout. While the vehicle was left at the curb, some sidewalk busybody had moved the control to the extreme notch and had left it that way. The machine ran away immediately the power circuit was closed by the plug, and after injuring its owner, smashed itself against a tree further down the street.

To provide against the possibility of such accidents, the controller on at least one make of electric vehicle, the Waverley, is so arranged that even after the circuit plug has been inserted, the machine will not start until the lever is brought back to the neutral position, so that it may be in any forward speed or the reverse at the time the plug is put in, without danger of an unexpected movement. A further feature of the control, showing the provision that is now made to protect against error or accident in electric vehicle operation, makes it impossible to change from high speed forward to high speed reverse. If the mechanism be shifted from one to the other with a rapid movement, the controller automatically shuts off the power, so that the change in direction must be begun on the low speed.

Care Needed in Selecting Oil.

The selection of tires, lamps, and in fact the general equipment of a car is carefully supervised by the owner, while when it comes to oil, the chauffeur is often given a free rein or the deciding factor is price rather than quality. The oil bill is probably one of the smallest items in the upkeep of a car, while upon its selection may depend the life of the engine.

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The Week's Patents.

897,099. Transmission Gear. Philip Hayward, Hanging Rock, Ohio. Filed March 6, 1908. Serial No. 419,445.

1. In a transmission gear, the combination of a driving shaft, gearing for connecting said driving shaft in operative relation to said driven shaft, a clutch for connecting said gearing with said driving shaft and disconnectng the same therefrom, a revoluble member mounted upon said driven shaft, a friction disc mounted upon said driving shaft and adapted to intermittently engage such revoluble member upon said driven shaft for the purpose of applying power directly thereto, and means controllable at will for throwing said clutch and friction disc into action alternately.

897,122. Spark Plug for Internal Combustion Engines. Henry C. Ter Meer, Summit, N. J. Filed March 27, 1908. Serial No. 423,722.

1. An electric ignition device comprising an outer insulator having a central opening throughout, an inner insulator of elongated form having within it an electrode and held within the opening of said outer insulator, the walls at the outer end of said opening converging, a binding post within the outer end of said opening and tapered to conform to the walls thereof, and a binding nut on the exposed threaded end of the post for securing the same in position; substantially as set forth.

897,151. Pneumatic Tire. Walter C. Rocheleau and Louis T. Rocheleau, Woonsocket, R. I. Filed March 2, 1907. Serial No. 360,165.

A pneumatic tire comprising a covering, a layer of tough material arranged against the inner side of the outer portion of the covering, a band of resilient or springy material of convex-plano form in cross section arranged at the inner side of the said layer, a flat metallic hoop arranged against the inner flat side of the convex-plano band, a layer of tough material arranged at the inner side of the hoop and extending alongside the side portions of the first mentioned layer and connected to said side portions at a point intermediate the edges thereof and the hoop, a layer of tough material having a loop portion arranged against the second mentioned layer and also against the extended side portions of the first mentioned layer and connected to the said extended side portions and also having surplus edge portions lapped one over the other, and an inflatable tube contained in the said layer.

897,202. Hydrocarbon Burner. Burton C. Hamilton, Chicago, Ill., assignor, by mesne assignments, to Stanley Motor Carriage Company, a Corporation of Massachusetts. Filed Nov. 5, 1901. Serial No. 81,274.

1. The combination with a steam generator of a main burner therefor and having a combination chamber arranged between said generator and burner; a fuel vaporizer located within said combustion chamber and connected to said burner; a swinging heating and lighting torch adapted to play upon and heat said vaporizer; and means for supplying fuel to said torch connected to the vaporizer.

897,209. Automobile or Vehicle Tire. Godfried Knadler, Cleveland, Ohio. Filed Aug. 20, 1906, Serial No. 331,242. Renewed Oct. 16, 1907. Serial No. 397,677.

1. A non-inflatable cushion tire for vehicle consisting of a single endless molded tabular body having separate base portions adapted to abut and form a solid sustaining wall on a central line through the base of the tire, and said body having its greatest thickness next above the immediate base on lines corresponding substantially as shown and described.

897,230. Motor Vehicle. Thomas L. Sturtevant, Quincy, and Thomas J. Sturtevant, Wellesley, Mass. Filed Sept. 3, 1904. Serial No. 223,247.

1. In a motor vehicle, the combination of a motor, fuel-supplying apparatus therefor comprising a throttle, an automatic clutch device between the motor and a driven part, a single device for controlling the said throttle and the operation of the automatic clutch device, and a stop for limiting the closing movement of the throttle so that the motor may continue to run but at a speed too low to permit clutching engagement of the said automatic clutch.

897,259. Method of Carburetting Air for Explosive Engines. Alexander Winton and Harold B. Anderson, Cleveland, Ohio, assignors to the Winton Motor Carriage Company, Cleveland, Ohio. Original application filed June 23, 1906, Serial No. 323,117. Divided and this application filed April 15, 1908. Serial No. 427,197.

1. The method of uniformly carburetting volumes of air moving alternately at different velocities, consisting in subjecting the slowly-moving volumes of air to surface contact with a body of volatile liquid, and the rapidly moving volumes of air to sprayed volatile liquid.

897,261. Transmission Mechanism. Chas. E. Duryea, Reading, Pa., assignor to Corbin Motor Vehicle Corporation, New Britain, Conn., a Corporation of Connecticut. Filed Sept. 28, 1907. Serial No. 394,962.

1. In a transmission mechanism, a driving shaft, a driven shaft, a plurality of change speed gears held against rotation but adapted to slide on one of said shafts, an internal gear connected to the other shaft, means to shift the first mentioned gears longitudinally on their shaft support to cause either one to face said internal gear, and means to shift the first mentioned gears and their support laterally to cause either of said gears to mesh with said internal gears.

897,270. Running Gear for Vehicles. William H. Chapin, Springfield, Mass. Filed Dec. 11, 1905. Serial No. 291,286.

1. A vehicle running gear comprising a frame or platform, a wheel frame consisting of an axle, two supporting arms therefor, means to pivot said arms between their extremities on an axis parallel with said axle, and pneumatic cushions disposed at opposite ends of the supporting arms, one on each side of the pivotal point therefor, to yieldingly restrict the movement of the ends of said arms in opposite directions.

897,368. Automobile. Henry K. Holsman, Chicago, Ill. Original application filed Feb. 8, 1907. Serial No. 356,393. Divided and this application filed June 12, 1907. Serial No. 378,502.

1. In an automobile, the combination with running gears, of a steering wheel having its axle pivoted thereon, a steering arm secured to the axle, a vertical rock shaft, link connections between the rock shaft and the steering arm, a horizontal arm connected to the rock shaft to swing it to steer the vehicle but movable relative thereto, an elongated handle and sleeve journaled on the horizontal arm, engine-throttling mechanism, and connections between the engine throttling mechanism and the sleeve, whereby the latter may be rotated in one position of the arm and moved longitudinally thereof in another position to control the speed of the vehicle.

897,421. Brake for Automobiles. Gordon Stables, Philadelphia, Pa. Filed April 24, 1907. Serial No. 370,009.

1. A brake of the type set forth, comprising a rock shaft having cranks at its ends, brake shoes pivoted to said cranks, a transverse member formed with openings, said brake shoes having stems projecting through said openings as guides, pins carried by the stems above the transverse member, spring actuated means for rocking said shaft, and means for holding said shaft normally against movement by said spring actuated means.

897,450. Short Turn Gear. Robert H. Bowman, Canon City, Colo. Filed Feb. 24, 1908. Serial No. 417,380.

1. In a short turn gear, the combination with the main frame of the vehicle, a pair of driven gears mounted thereon, and the front truck wheels loosely mounted on their respective axles; of a separate gear connection that joins each of the wheels with their respective drive gears, each of the said connections including a shifting clutch device, for throwing the wheels out of gear with their respective drive gears, means on the front truck frame for oscillating the wheels together but in reverse directions and other means on the said front truck frame for independently actuating the clutch devices.

897,466. Spark Plug Guard. Robert S. Kearney, New York, N. Y. Filed April 9, 1907. Serial No. 367,146.

1. A guard for spark plugs comprising a cylindrical shell open at both ends and adapted to slip over the spark plug and inclose the same, one end of the shell being secured to the base of the spark plug while the opposite end is provided with a notch, a removable cap normally closing the notched end of the shell, and a hood carried by the cap and projecting over the said notch.

897,472. Jar for Storage Batteries. Joseph Marx, Buffalo, N. Y. Filed July 19, 1907. Serial No. 384,580.

In a jar for storage batteries, the combination of an outer shell, an inner shell formed of hard rubber and fitting within the outer shell, the said inner shell being provided at its mouth with an enlarged annular rim also formed of hard rubber and extending over and resting upon the edge of the outer shell, and a lip of soft rubber pendent from the enlarged rim and overlapping the edge of the outer shell upon the exterior thereof.

897,519. Rotary Engine. Levi Bonner, Ames, Colo. Filed Sept. 20, 1905, Serial No. 279,257. Renewed Jan. 25, 1908. Serial No. 412,634.

1. A rotary engine having outer and inner cylinders, one of which has a movement of rotation relative to the other, a resilient blade attached to one of said cylinders whose edge bears on the circumferential surface of the other cylinder, and fluid pressure inlets and outlets opening into the space between the said cylinders, said blade

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being rearwardly inclined and the faces thereof against which the pressure acts being inclined to the face of the cylinder against which it contacts, substantially as described.

897,532. Cooling Device for Explosive Engines. Reinhold Herman, Crafton, Pa. Filed Aug. 12, 1907. Serial No. 388,157.

1. A cooling device for the purpose set forth comprising groups of sets of combined water and air conduits, the water conduits of each set of each group being suitably spaced apart and the air conduits being open at each end and disposed within the water conduits, each of said air conduits opening at each end directly into the atmosphere whereby the air will be conducted by the sets of air conduits of each group in the same general direction and in currents independent of each other, the combined conduits of each group extending in an opposite direction with respect to the conduits of the other group.

897,591. Automobile Running Gear. John W. Cooper, Boston, Mass. Filed July 2, 1907. Serial No. 381,819.

1. In a vehicle running gear, the combination of upper and lower frames, an intermediate frame between said upper and lower frames and having pivotal connection with the former, a vertical spring arranged between the inner portion of said intermediate frame and the lower frame, a horizontal spring mounted upon the lower frame and connecting means between said horizontal spring and the outer portion of the intermediate frame for supporting the latter by a suspending action.

897,630. Detachable Rim. Rudolf Kronenberg, Ohligs, Germany. Filed Dec. 21, 1907. Serial No. 407,462.

1. A rim for vehicle wheels, bearings engaging the spokes of the wheels and provided with openings, and a transverse locking member engaging said openings and provided with an eccentric part engaging the rim.

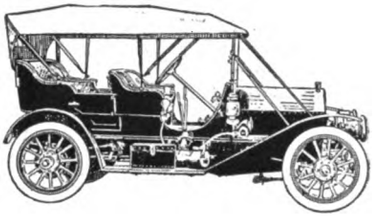
897,663. Convertible Automobile Body. Edward T. Robinson, St. Louis, Mo., assignor to St. Louis Car Company, St. Louis, Mo., a Corporation. Filed Sept. 27, 1907. Serial No. 394,823.

1. A convertible automobile body consisting of a body proper, stationary corner posts extending upwardly therefrom, a top supported by said corner posts, side posts, hinged to said top and susceptible of being moved in juxtaposition to the top of the vehicle body, means for retaining said hinged posts in either their elevated or lowered position, and window sashes for co-operating with said stationary corner posts and said hinged posts, substantially as set forth.

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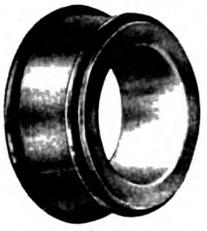
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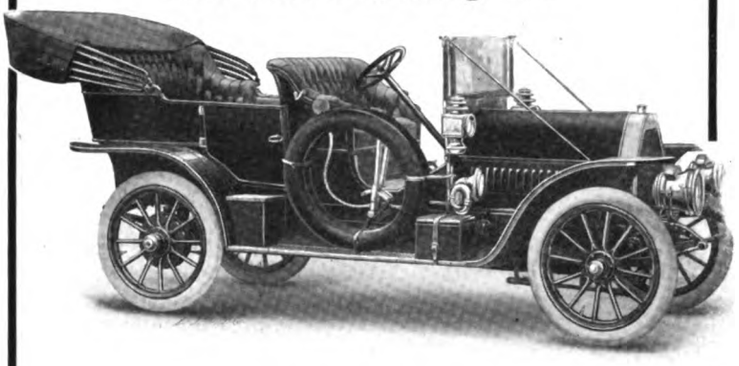
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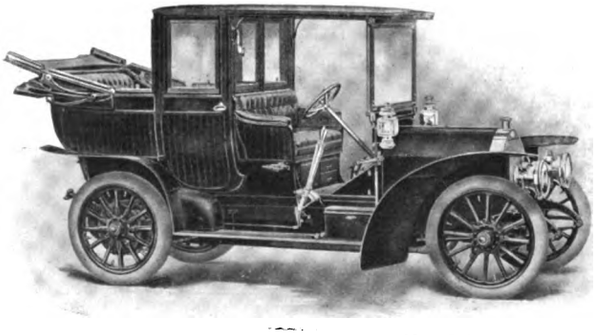
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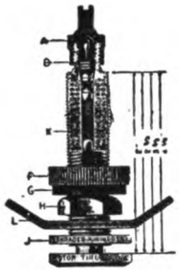
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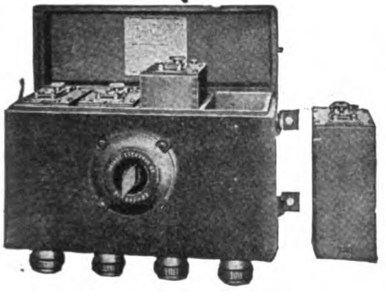
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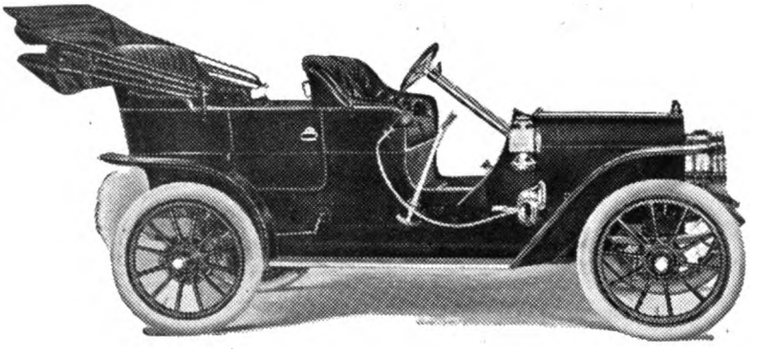
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LITTLE GRAINS OF SAND
NOTHING INJURES
THERMOID
BRAKE LINING

HAVE YOU SEEN

THE PERFECTION WRENCH?

The newest and best wrench made; all steel—great strength; instantly adjusted; easily and quickly operated; positive grip; immense time, trouble, and temper saver; best "all round tool" ever offered for sale.

"You will want one when you see it."

For circular address,

THE PERFECTION WRENCH CO.,
Box 426, PORT CHESTER, N. Y.

Stoddard-Dayton

ONE Quality for ALL Models
ONE Price for ALL Buyers

Write for 1909 Catalog.

THE DAYTON MOTOR CAR CO.,
Dayton, O.

DIAMOND CHAINS

drive their cars more miles per dollar cost than any others

TRADE MARK

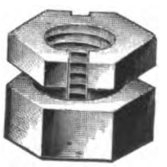
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189 W. Georgia St.,
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A Necessity On Automobiles—WHAT?

COLUMBIA LOCK NUTS

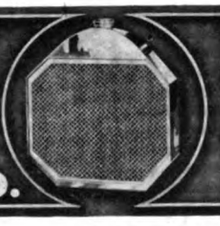
CANNOT shake loose. They add an important factor of safety and give a feeling of security. Columbia Lock Nuts are the best kind of accident insurance. Used by most makers of the best cars and by leading railroads, etc. Send us a two-cent stamp, size and thread of the bolt, and we will forward a Columbia Lock Nut for it.



COLUMBIA NUT & BOLT CO., Inc., Bridgeport, Conn.

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INTAKE, EXHAUST AND WATER PIPES

Whitlock Coil Pipe Co. Hartford, Conn.

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Automobiles

Which do you want—weight or ability? The Franklin catalogue tells you; and tells you why. Write for it.

H. H. FRANKLIN MFG. CO., Syracuse, N. Y.

WE WILL NOT

accept your contract unless we can give you the delivery you require. We will not accept more contracts than we can fill with proper attention to each. We make Pressed Steel Frames and Automobile Stampings.

THE HYDRAULIC PRESSED STEEL CO.,
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DOW TUBES

The Best Tubes Ever Manufactured.
Are the most economical. Do not deflate when punctured.

DOW TIRE COMPANY,
2000 Broadway, New York.
889 Boylston St., Boston, Mass.

THE MARMON

"A Mechanical Masterpiece"

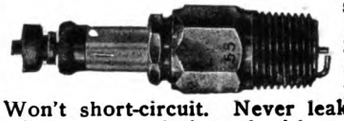
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(Estab. 1851) INDIANAPOLIS, IND.

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SIDE-WIRE SOLID MOTOR TIRES
THE WORLD'S STANDARD
FIRESTONE TIRE & RUBBER CO., Akron, Ohio

The "Gotham" **STA-RITE** will end your spark plug troubles. Soot can't stick to the porcelain. Won't short-circuit. Never leaks. Can be taken apart and cleaned with ease. Of dealers, or direct, $1.00.



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FRICTION DRIVEN

The car which has no clutch to slip—
no gears to strip—no grease—no noise.

THE $1350 CARTERCAR

The Motorcar Company, Detroit, Mich.



It is not possible for any chain to be better than

BALDWIN CHAINS

BALDWIN CHAIN & MFG. CO.,
Worcester, Mass.

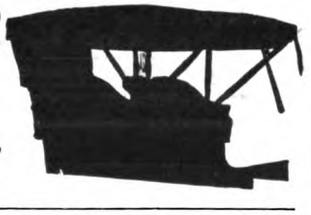
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JUSTIFIES ITS NAME

THE ACME MOTOR CAR CO.
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Aluminum Bodies



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Gasoline and Electric—for Pleasure and Business
Studebaker Automobile Co., South Bend, Indiana



Steel Tires

Full of Air.
Tire expense cut in two.
Cannot Blow Out, Rim Cut or Puncture.
As Flexible as Rubber
Anti-Skid.

That part of a tire with a blowout or a rim cut in it will last longer than any other part if encircled by a few sections of steel.

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Enclosed find $2.00 for which enter my subscription to

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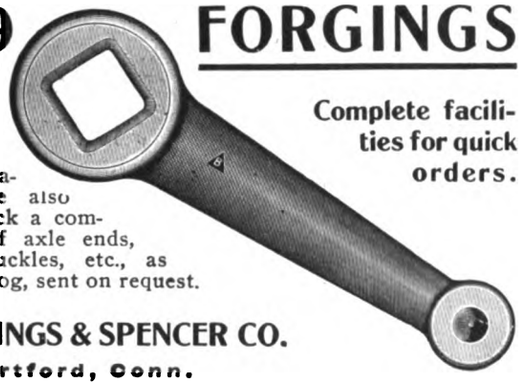
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SPARE WHEEL

Every motorist should carry a "Stepney" and avoid all troublesome delays caused by punctures and blowouts. Write for Catalogue D.

The Only Cure for Tire Troubles

DISTRIBUTORS — AMERICAN STEPNEY SPARE WHEEL CO., 1773 Broadway, New York Ciy. AUTO SPARE WHEEL CO., 22d, Oak and Gillham Blvd., Kansas City, Mo. EXCELSIOR SUPPLY CO., 1436 Michigan Ave., Chicago, Ill.

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Send us your specifications. We also carry in stock a complete line of axle ends, steering knuckles, etc., as per our catalog, sent on request.

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Did You Get Yours?
IT'S FREE FOR THE ASKING

Our new catalog showing and describing the different models of the

SPLITDORF MAGNETO

Get one and learn more about this splendid mechanism.

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For Automobile Bodies, Dashes, Guards, Bonnets, Battery Boxes, Drip Pans, Mufflers, Etc.

STRONG—DURABLE
SCALELESS—RUSTLESS
SMOOTH—PAINT ADHERES FIRMLY

A Metal That's A Time and Money Saver

THE STARK ROLLING MILL COMPANY, CANTON, OHIO

Model B—Brush Runabout

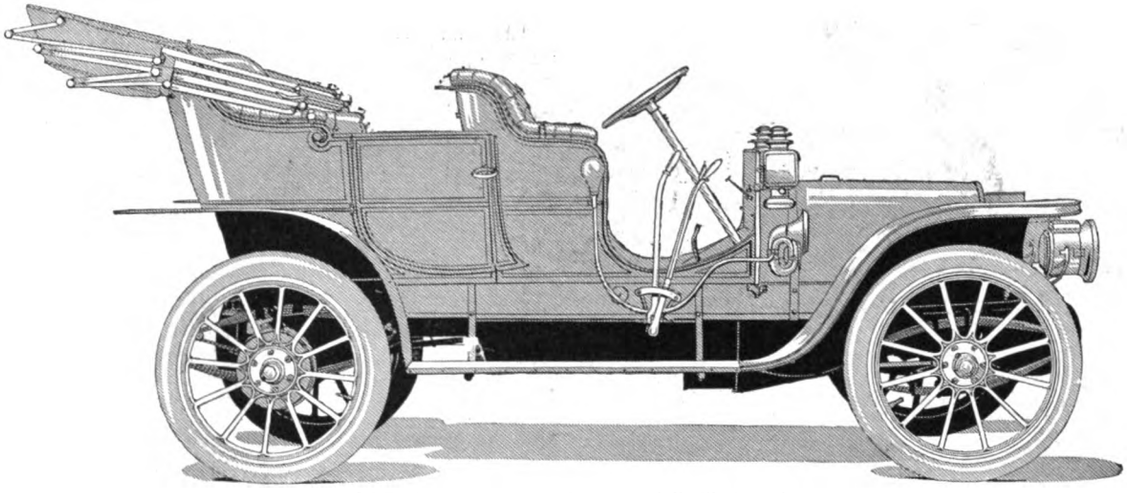
A CAR OF SIMPLE DESIGN MADE WELL.
NOT A COMPLICATED DESIGN MADE CHEAPLY

Its records and the opinions of its users speak more loudly than self praise. Agencies for 1909 are being closed rapidly. Much good territory still open.

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FRANKLIN AUTOMOBILES



Model D, five-passenger touring car. Full elliptic springs.
Built-up wood frame. 36-inch wheels. 106-inch wheel base.
2200 pounds. $2800, f.o.b., Syracuse. Top extra.

A high-grade powerful automobile. Refined, reliable and safe. Abler for touring on American roads than any automobile but a Franklin. Beautiful to look at, comfortable to ride in and doing its work at the lowest operating cost.

The biggest mistake in automobile making is useless weight and bulk.

Great weight is not needed to carry passengers in an automobile. It is not necessary for strength either. Useless weight is a weakness. It handicaps the power and discounts the ability. It is expensive beyond all reason.

The average water-cooled automobile weighs 25 per cent. more than a Franklin of the same capacity. In many cases the difference is even greater. Figure out what this means in wear and tear on tires, and on the patience and the nerves. Figure the difference in fuel needed to move the same passengers.

Beside this the Franklin air-cooled engine produces the same power as a water-cooled engine on 25 per cent. less gasoline. Franklins make no repair expense for a leaky or frozen plumbing system. They work all the year. They are easier to handle than a heavy automobile, less liable to accident and damage. Their depreciation is less.

A water-cooled automobile can't be as light as it ought to be without sacrificing strength or comfort or some other important quality.

The first and last question to ask about an automobile before you buy it is, "What does it weigh?"

"My Model D goes over many of the roughest and hilliest roads in Rhode Island and Massachusetts in company with other cars of greater power than mine, and I always find myself at the right place at the finish. If I had four times as much money to put in a car I should still want a Franklin. I find it durable, comfortable, strong and light, a fuel-saver, a car that moves all the time whether up hill or down. I am satisfied that I have a corking good car and do not want any other unless the H. H. Franklin Mfg. Co. can in some way improve upon their own product."

SIDNEY WILLIAMS, 23 Broad St., Providence, R. I.

May 4, 1908.

Write for catalogue describing the complete line of Franklin touring cars, runabouts, limousines, landaulets, broughams and town cars.

H. H. FRANKLIN MFG. CO., Syracuse, N. Y.

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THE MARMON

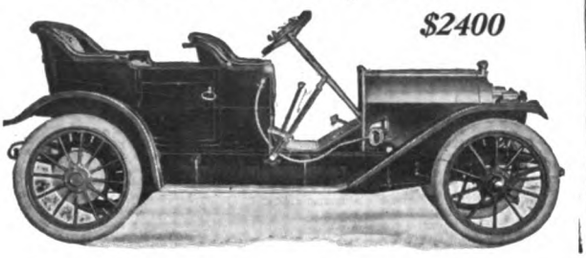
"A Mechanical Masterpiece"





Marmon "Thirty-Two"

$2400



For The Man Who Doesn't Buy With His Eyes Shut

The Marmon "Thirty-two" is neither a cheaply-built car at a low price, nor a "good-enough" car at a high price.

It is a thoroughly high-grade car, carefully built and completely equipped, at a price which makes it the best real bargain of the year.

It is a car of whose character, appearance, and performance its owner may well be proud. It is a car that will live and can be depended upon. The Marmons of 1904 are still giving splendid service.

Equipment and Marmon construction considered, it urges a careful investigation by every buyer who is really economical.

Genuine Krupp and Chrome Nickel steels used in important parts. Bosch magneto and battery—dual system. Hess-Bright imported ball bearings. Weight (weigh it), 2,000 lbs. 32-40 H.P. Big tires (34x40 all around). Large brakes. Straight line shaft drive. Fully equipped. Touring car, Roadster, Four-Passenger Suburban with removable rear seat, or Limousine Town Car.

TO DEALERS: This car is a winner Your competitors will have to take off their hats to it.

The superb Marmon "Fifty" (with Seven-Passenger or Four-Passenger Body) $3,750

Nordyke & Marmon Co. (Estab. 1851) Indianapolis, Ind.

Standard Mfrs. A. M. C. M. A.

(We will exhibit in New York only at Grand Central Palace Show, opening New Year's Eve.)

The Easiest Riding Car In The World

LARGE SALES AND SMALL PROFIT

with thousands of satisfied customers is our best advertisement, and makes it possible for us to import

The Celebrated Brampton Chain

from ENGLAND (paying Freight and Duty) and sell it at **THE SAME PRICE AT WHICH THE OTHER CHAINS ARE SOLD TO AUTOMOBILE MANUFACTURERS, JOBBERS, DEALERS AND OWNERS.**

Price Being Equal, Which Would You Prefer? The Best?

Several of the manufacturers now equip their cars with **THE BRAMPTON CHAINS.** Others will do so, if you will order your car that way. No extra cost to you or the manufacturer.

There is an increasing DEMAND for **THE BRAMPTON CHAIN** and it is now being sold by the live jobbers and dealers throughout this country. Agents wanted in unoccupied territory.

PRICE THE SAME—QUALITY. THAT'S DIFFERENT

We are Sole U. S. Agents. Write for proposition. Catalog on request.

CHAS. E. MILLER,

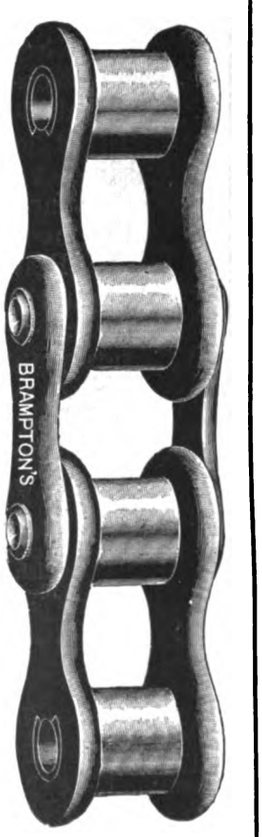
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SEE OUR EXHIBIT AT BOTH NEW YORK AUTOMOBILE SHOWS.

The Largest Automobile Supply House in America



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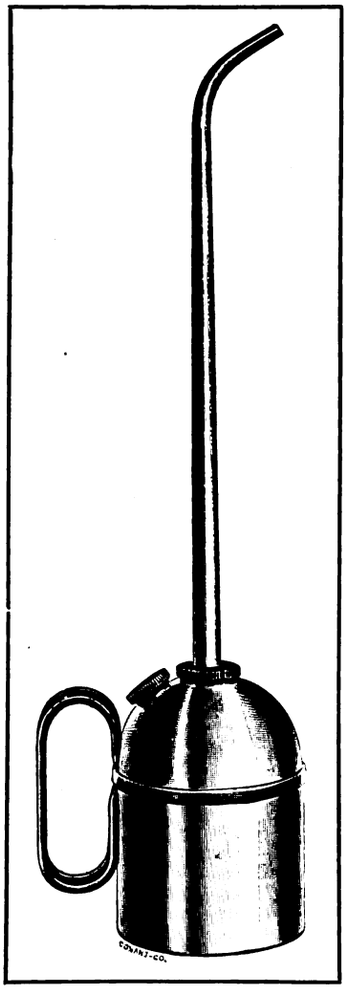
One of the thousands of

"SWEDOH" SPRING STEEL RIMS

turned out by us, not one has ever been returned as defective. We make the statement on honor, and it ought to impress the manufacturer who is aiming to produce a quality product.

"Swedoh" Spring Steel Rims

are emphatically a quality product of one of the largest and best equipped mills in the country. They are used on most good automobiles and ought to be used on all automobiles.

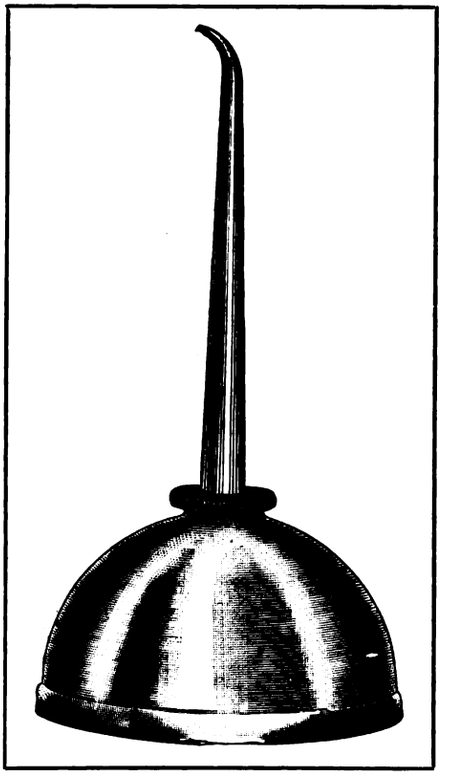


We also make from "Swedoh" steel

REAL OIL CANS

heavily copperized, of extreme durability and springiness that the ordinary oil can ought to be but isn't.

Our product includes all kinds of steel stampings and pressed work. If you want anything made from steel, we can make it—and "make good."



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Bridgeport, Connecticut

NEW YORK OFFICE, 100 BROADWAY

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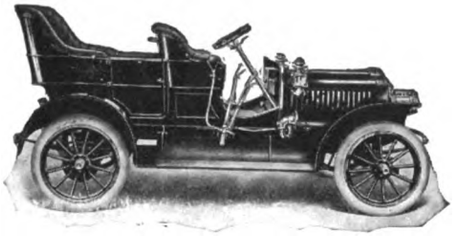
THE
American Standard Car

is a title deserved in so great a degree by no other car than

"The Maxwell"

The Maxwell serves the needs of a greater variety of users. It gives unqualified satisfaction to the man to whom economy of upkeep is a consideration as well as to him who in using a Maxwell finds excessive first outlay unnecessary.

Whether the motorist travels about in the Maxwell Junior $500 Standard American Runabout; whether he uses the 2-cylinder 14 HP. Runabout, which is sold, fully equipped, at $825; the 2-cylinder 20 HP "Doctor" Maxwell—the ideal physician's car, at $1,350, fully equipped; the 2-cylinder 20 HP. five-passenger Touring Car, at $1,450, fully equipped; or one of our 4-cylinder 30 HP. cars of the five-bearing crankshaft type selling at $1,750—every one of these models represents the highest value ever produced by the American automobile industry.



Maxwell Model D A, 4-cylinder, 30 HP. Touring Car, $1,750.

Some cars use THREE-POINT SUSPENSION; others THERMO SYPHON COOLING, UNIT CONSTRUCTION, MULTIPLE-DISC CLUTCHES—but no other American car combines all these important features in a single design, except THE MAXWELL.

Our 4-cylinder 30 HP. types use five-bearing crankshafts—a construction more expensive to make, but certain to produce the satisfaction that is genuine Maxwell satisfaction, the pleasant certainty that the problem of owning a Maxwell is PERFECTLY SIMPLE, because the car itself—no matter which of the Maxwell models you choose—is SIMPLY PERFECT.

You should be interested to learn more about Maxwells. Drop us a line.

Benj. Briscoe

Maxwell-Briscoe Motor Co.

P. O. Box 106, Tarrytown, N. Y.
Factories: New Castle Tarrytown Pawtucket

THE
SELDEN
CAR
FOR 1909

Enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

$2000

Touring Car Roadster
Limousine Landaulet

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

The "Silent Selden"

1909 MODELS READY IN SEPTEMBER

Agency propositions now ready. Send for catalog and specifications.

Selden Motor Vehicle Co.

ROCHESTER, N. Y.

Member A. L. A. M.

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PROVERBIAL HOT CAKES

aren't in it for popularity when stacked up against

STEWART SPEEDOMETERS

I would not believe there was such a demand for speedometers until we handled Stewarts

There's Nothing To It

FIVE STEWARTS SOLD TO ONE OF ANY OTHER MAKE
So says a prominent New York dealer

Send for new catalog describing the beautiful 1909 line

Stewart & Clark Mfg. Co.

509 Diversey Blvd., Chicago, U. S. A.



MODEL 4—Four-inch, 60-mile dial, enclosed season odometer and automatic resetting trip register and maximum speed hand, price.. **$40**

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The Jackson "Mud-Hen"

from Detroit, Mich., to Bangor, Maine flies through on time

Because of the Wonderful Accuracy of the Warner

AUTO-METER



This wonderful instrument is so sensitive that it correctly indicates the speed when the car is PUSHED AHEAD BY HAND.

No other speed indicator begins to indicate until the car has reached a speed of 5 to 15 miles per hour.

The Auto-Meter is so accurate and durable, that instruments FIVE YEARS OLD still test absolutely accurate within 10 FEET TO THE MILE.

Those who demand ENDURING ACCURACY insist on the Auto-Meter. It is the only instrument SUPPOSED to indicate speed which REALLY DOES IT.

The Warner Instrument Co.

Factory and Main Offices:

323 Wheeler Avenue, BELOIT, WIS.

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New York, 1902 Broadway
Boston, 925 Boylston St.
Philadelphia, Cor. Broad & Race.
Pittsburg, 3432 Forbes St.
Cleveland, 2062 Euclid Ave.
Buffalo, 722 Main St.
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Los Angeles, 1212 S. Main St.

What Could Be More Convincing Than This?

Mr. Inderrieden, Borough of Manhattan, Nov. 10th, 1908
Warner Instrument Co.,
New York City.

Dear Sir:

It gives me great pleasure to inform you that I used the Warner Auto-Meter upon the Model "H" 1909, $1600 Jackson car, with which Mr. E. P. Blake of Boston and myself made a non-stop run from Jackson, Mich., to Bangor, Me., in 215 hours continuous driving. The car ran continuously during the seven days of the run. The roads were something frightful, and it took a great deal of night driving to keep up with our schedule.

We found the Auto-Meter absolutely indispensable to us in picking out the road, and as sign boards and other indications were rather vague, we had to depend upon our guide books and maps and then watch the Auto-Meter.

The Auto-Meter never failed us, and I take this opportunity of expressing to you my entire satisfaction at the manner in which it performed.

Very truly yours,
CHAS. G. PERCIVAL, M. D.

Overland

For Simplicity
For Reliability
For Appearance
For Comfort and
For Noiselessness

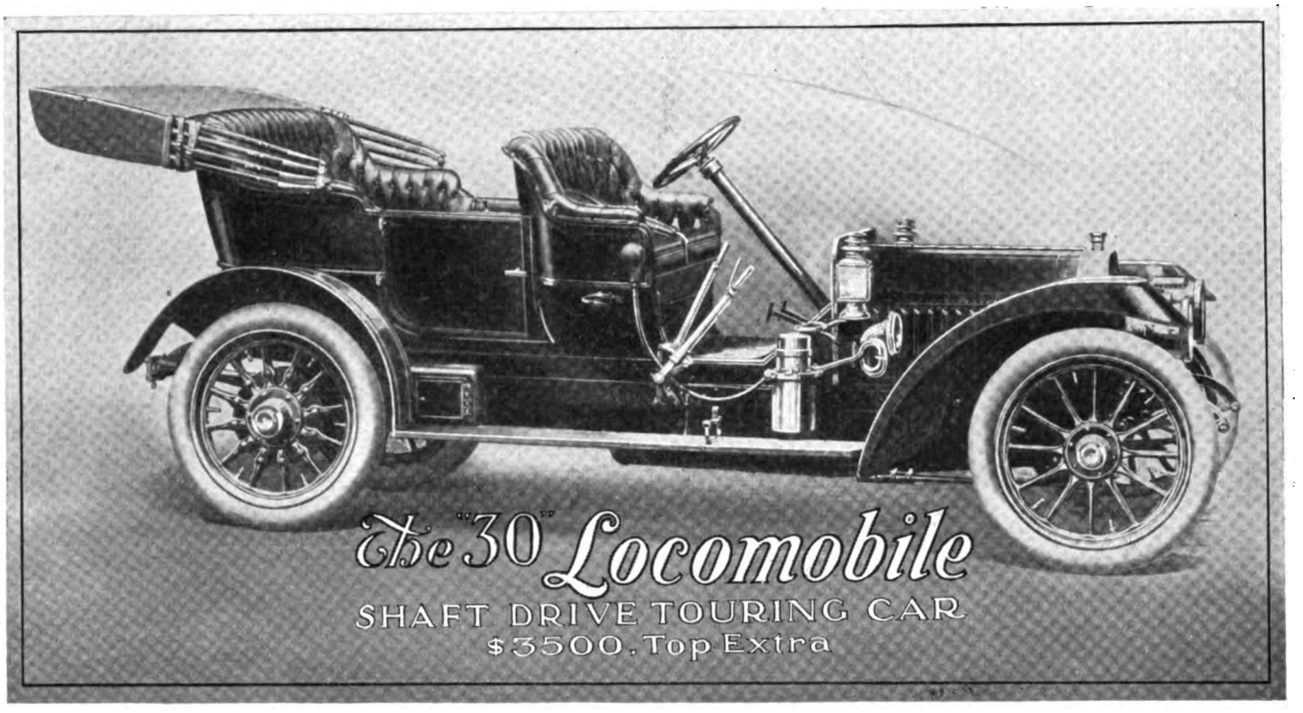
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The Most Complete Line in America

Model 30 Roadster (3-pass.), Planetary transmission,	$1,250
Model 30 Roadster (4-pass.), Planetary transmission,	1,300
Model 30 Coupe, Planetary transmission,	1,650
Model 31 Toy Tonneau (4-pass.), Planetary transmission,	1,400
Model 31 Tonneau (5-pass.), Planetary transmission,	1,400
Model 32 Toy Tonneau (4-pass.), Selective transmission,	1,500
Model 32 Tonneau (5-pass.), Selective transmission,	1,500
Model 34 Willys-Six Roadster or Tourist,	2,000

OVERLAND AUTOMOBILE CO., INDIANAPOLIS INDIANA

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THE NEW "30"

The name Locomobile on a shaft-drive car guarantees its superiority. The New "30" shaft-drive model is as strong, durable and safe as our famous chain cars. Powerful—silent—easily handled—and, above all, easy riding. Thoroughly developed and fully tested through three years actual road work. Motor 4½ x 4½, 38 h.p., actual. Wheels, 34 in. Price, $3,500 (top extra).

THE "40"

The "40" Locomobile is the logical choice of those who want a high-powered seven-passenger car. Price, $4,500. Also Runabout or Baby Tonneau and Closed Cars.

A "40" Locomobile won the Philadelphia Founders' Week Stock Chassis Race, the most important event of its kind ever held in America.

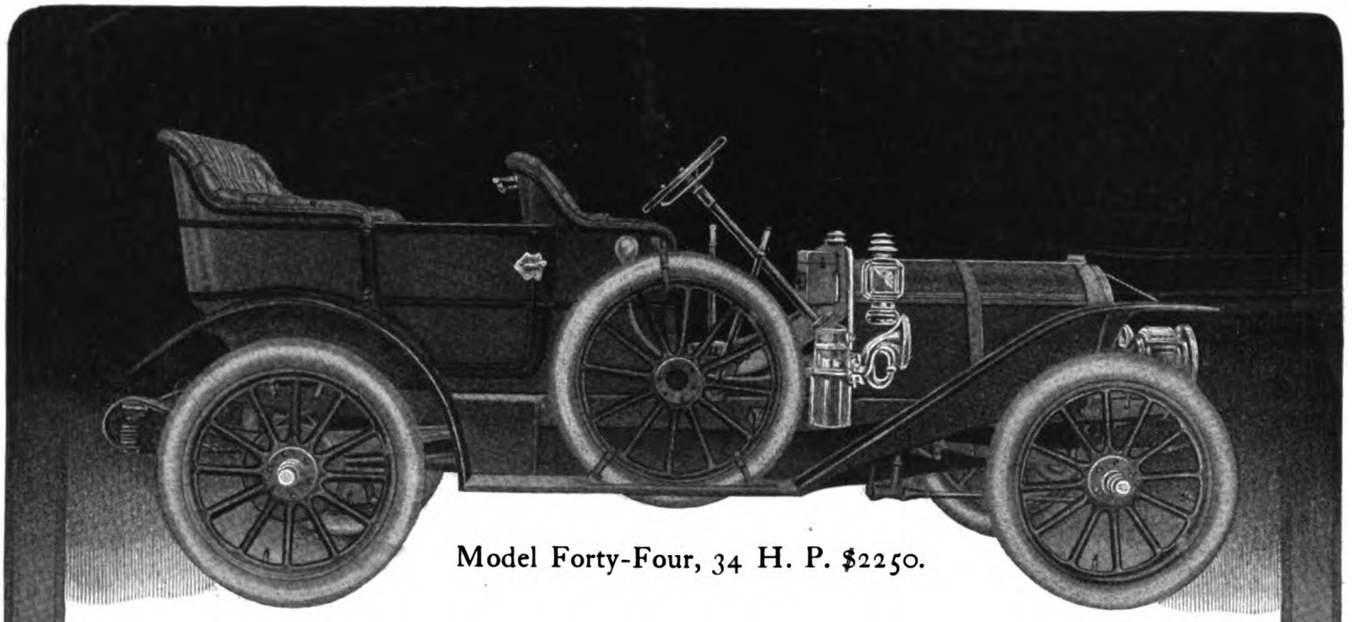
A LIMITED AMOUNT OF TERRITORY OPEN TO GOOD DEALERS

Send 10c. for a set of 12 Souvenir Post Cards, showing the 90 h. p. Locomobile winning the 1908 International Race for the Vanderbilt Cup, the first American car to achieve this triumph.

The Locomobile Company of America, Bridgeport, Conn.

NEW YORK: Broadway and 76th St.—BOSTON: 400 Newbury St.
PHILADELPHIA: 245 N. Broad St.—CHICAGO: 1354 Michigan Ave.

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Model Forty-Four, 34 H. P. $2250.

THE RAMBLER SPARE WHEEL

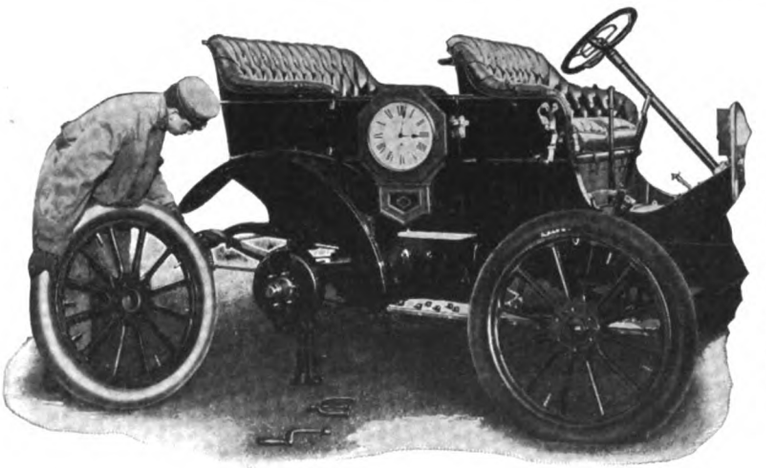
All the new four-cylinder Ramblers are fitted for the Rambler Spare Wheel—a wheel complete—excepting the hub center, on which is carried a complete tire inflated. The regular wheel is secured to the hub center by six bolts. Removing the six nuts for these bolts this wheel can be detached in two minutes with the special tools provided, and the Spare Wheel put on and secured in three minutes.

Wheel fits either front or rear. Solves the tire problem. Extra wheel available in case of need. Spare Wheel with inflated tire, brackets and tools, for Model Forty-Four, $74, for Model Forty-Five, $85.35.

Rambler

The Car with the Offset Crank Shaft

Seven passenger model, forty-five horse power with offset crank shaft, $2500. Other models, $1150 to $2500.



Write for catalog describing in detail Rambler offset crank shaft, Spare Wheel, straight line drive and other exclusive features of the new Rambler models.

This shows the simple manner in which the regular wheel can be removed and the Spare Wheel substituted within three minutes.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory, Kenosha, Wis.

Branches and Distributing Agents:

Chicago, Milwaukee, Boston, New York, San Francisco. Representatives in all leading cities.

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, December 10, 1908. No. 11

A. L. A. M. DISPOSES OF OLDS

Company Finally Dropped for Non-Payment of Royalties—Chalfant Promoted to Post of General Manager.

As a final step in the case of the Olds Motor Works, of Lansing, Mich., whose Selden license was recently cancelled by the Electric Vehicle Co., for non-payment of royalties, the board of managers of the Association of Licensed Automobile Manufacturers at a meeting on Thursday, the 3d inst., dropped the Olds company from the Association. This action was taken following a meeting of a special committee the day previous, at which the Olds company was given apportunity to present whatever reasons it cared to offer as to why it should not be put out of the organization.

The special committee's meeting was called in accordance with Article XVI. of the Association's agreement with its members, which stipulates that a hearing be given before a member may be expelled. F. L. Smith, vice-president of the Olds Motor Works, had asked that the hearing be postponed from the date set by the committee, but this request the latter refused to grant. At the meeting the committee was unanimous in its recommendation to the Association that the Olds company be removed from the membership. The report of the committee was approved at the session of the board of managers on Thursday, and the company was accordingly erased from the Association's roster.

E. P. Chalfant, who for several months has been the assistant general manager of the Association, was at the latter meeting elected to the post of general manager, left vacant some time ago by the resignation of Milton J. Budlong. He was also added to the show committee, to take the place of Marcus I. Brock, resigned. The presence of George J. Dunham, president of the new Royal Tourist Car Co., of Cleveland, O., a reorganization of the Royal Motor Car Co. was a feature of the managers' meeting on Thursday.

Those in attendance included: Elmer Apperson, Apperson Bros. Automobile Co.; John S. Clarke, Autocar Co.; W. C. Leland, Cadillac Motor Car Co.; Roy D. Chapin and Lee Counselman, Chalmers-Detroit Motor Co.; M. S. Hart, Corbin Vehicle Corp.; J. H. Becker, Elmore Mfg. Co.; Wm. E. Metzger, Everitt-Metzger-Flanders Co.; H. H. Franklin and G. H. Stillwell, H. H. Frankling Mfg. Co.; E. R. Hewitt, Hewitt Motor Co.; A. N. Mayo, Knox Automobile Co.; S. T. Davis, Jr., Locomobile Co. of America; H. A. Lozier, Lozier Motor Co.; C. W. Matheson, Matheson Motor Car Co.; L. H. Kittredge, Peerless Motor Car Co.; A. L. Pope, Pope Mfg. Co.; George Pope, Pope Motor Car Co.; George J. Dunham, Royal Tourist Car Co.; G. E. Mitchell, Alden Sampson Mfg. Co.; R. H. Salmons, Selden Motor Vehicle Co.; I. H. Page, Stevens-Duryea Co.; E. S. Church, Waltham Mfg. Co.; Thomas Henderson, Winton Motor Carriage Co..

Kansas City to Produce the Wonder.

Automobile manufacture in Kansas City, Mo., is to receive an impetus through the activities of the newly organized Wonder Mfg. Co., which is to make a car known as "The Kansas City Wonder." Charles F. Ettwein, who with L. A. Ettwein and H. N. Strait, is backing the enterprise, has leased a building at 4116 Penn street for factory purposes. About 7,000 square feet of floor space is available. The company is capitalized at $35,000 and proposes to build 200 cars during the coming year.

Mora Bids for Newark Capital.

The Mora Motor Car Co., of Newark, N. Y., is seeking assistance from the Newark Board of Trade in the flotation of $50,000 in bonds. Half the issue is said to have been subscribed for by the directors of the company and it is desired that the Board arrange to help in taking the other half. A meeting of the Board was held on the 1st inst., at which the company made its representations, and promised a production of 350 cars by spring if the bonds are sold.

THOMAS BRANCH FOR NEW YORK

Buffalo Company to Handle Its Own Product in the Metropolis—Hurlburt to be Local Representative.

Concurrent with its intended production of a new, light, shaft driven touring model, the E. R. Thomas Motor Co., of Buffalo, N. Y., has made arrangements for the opening of its own branch in New York City. To head the new branch William B. Hurlburt, formerly president of the Garford Motor Car Co. of New York, has been named. Heretofore the Thomas company has been represented in the Metropolis through an agency, but in 1909 the company's products will be marketed in New York directly through its own salesmen.

Hurlburt has sailed for Europe, to visit the foreign shows and study conditions abroad. Upon his return, however, he will prepare for the organization of the new branch and will make ready to take over the territory which will fall within his domain. Associated with Hurlburt in the new work, C. R. Teaboldt is mentioned, the latter having been identified with Hurlburt both in the Garford company and previously.

Detroit Motor Dickering with Marion.

The Detroit Motor Truck Co., of Detroit, Mich., is dickering with Marion, Ind. on a proposal to move to the latter place. The company wants the Marionites to take $50,000 worth of stock, while Marion's offer is a free factory site. The Commercial Club, of Marion, sent investigators to examine the company's holdings and prospects, resulting in a favorable report.

To Build Automobiles in Boone.

Boone, Iowa, has a new automobile company which is to make cars designed by F. B. Sunderlin, formerly of Des Moines. The backers of the enterprise include with Sunderlin, J. L. Stevens and Dr. C. W. Payne.

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In the Retail World.

J. M. Abbott has started a garage in Seguin, Tex. He is also contemplating an automobile stage line between San Antonio, Seguin and Austin.

Moline cars are to be handled in Illinois, in all but a few counties, by R. M. Owen & Co. Through its branch houses the company will appoint all sub-agents in the territory.

C. R. Welsh has bought the garage and automobile supply business of Longren Bros., in Clay Center, Kan. With it he will combine a repair business which he has also purchased.

J. E. Atkinson, of Springfield, Mo., moved, on the 1st inst., from his old location, 311 St. Louis street, to 300-302 East Walnut street. His new quarters comprise a two story building.

W. A. Twombley, formerly with the Buffalo branch of the Diamond Rubber Co., has resigned to go with the Iroquois Rubber Co., of Buffalo, N. Y. He will have charge of the tire and sundry department.

O. E. Eskew, of Allenhurst, N. J., sustained a $5,000 loss recently by a fire which destroyed the second story of the Allenhurst garage on Main street. About $2,000 was covered by insurance on the building.

Laverne Cole, of Rockford, Ill., is moving from North Church street to his new garage building on West State street. The structure has been fitted with every facility for garage and repair work, and features a large show room.

G. P. Hall has purchased the interests of W. J. Doherty in the Sterling Motor Co., of Sterling, Ill. The company is now composed of Hall and Harry Burkholder. The former has been the salesman and demonstrator for the concern.

Napoleon Leticq's garage and automobile repair shop in Worcester, Mass., was damaged by fire on the 23d ult., with a loss of about $300. A gasolene tank, which had been ordered out by the authorities three days before, was blamed.

The garage of S. A. Teel and Edward Werkheiser, on First street, Bangor, Pa., was destroyed by fire on the 25th ult. Ten automobiles were also burned, the total loss being approximately $25,000, on which there was little insurance.

John T. Cook has purchased the interests of R. T. Best in the South End Garage, of Newark, N. J. Work has been begun on a new building at 9 Wright street, which he will occupy, and the business will hereafter be known as Cook's Garage.

Willimantic, Conn., is to have a new garage concern, of which Frank Powell and William B. Imer will be the proprietors. It will be known as the Windham Garage Co., and will occupy the new building erected by S. J. Young on a site back of his hotel on Main street.

A branch in Cleveland has been opened by the Forest City Motor Car Co., of Massillon, O., which makes the Jewel car. C. F. Watts is to be the manager, and the branch will be known as the Jewel Motor Car Co. of Cleveland. It will be located at 2174-80 East Ninth street.

The Aberdeen Automobile Co., of Aberdeen, S. D., operated by Cooke and Morehouse, on South Main street, has been purchased by F. W. Boettcher. The large garage of the company will be kept open at all hours and will operate a day and night automobile livery service.

A petition for a receiver has been filed against the Goodyear Auto Tire Repair Co., of Pittsburg, Pa. The action was brought by A. M. Frauenheim, an investor in the company, who claims that the manager, C. A. Vetter, has appropriated the company's property to his personal use.

John P. Trader has been placed in charge of the branch of the Firestone Tire Rubber Co., in St. Louis, Mo. He succeeds F. O. Sawyer, who has disposed of his interests in the company. The branch will hereafter be the pneumatic tire distributing headquarters for Missouri, Oklahoma, Arkansas, Kansas and Texas.

Schedules in bankruptcy of Max Wineburgh, doing business as the American Automart, 1621 Broadway, New York City, show liabilities amounting to $14,181 and nominal assets of $6,950. He also claims some outstanding accounts, the amount undetermined, as his books were removed, he says, by some unknown person.

Edward T. Barton, of Hartford, Conn., who for years has conducted a tire repair business at No. 20 Church street, is in financial difficulties. At a meeting of his creditors he offered 15 cents on the dollar, which if accepted, will permit him to continue. Otherwise bankruptcy proceedings will be necessary. The liabilities are figured at about $3,500.

The Northwestern Auto Co., of Minneapolis, Minn., has taken over the entire building on Fourth street, south, back of the Security Bank building, now occupied by the Bingham-Jordan Auto Co. and the H. Paulmann Co. About $1,500 will be spent for a complete new front before the Northwestern company moves from its present location on Sixth street.

Minneapolis, Minn., is to have a "Motor Mart," located at First avenue and Tenth street south, the lease for which has been taken by H. Paulman & Co., of Chicago, agents for the Pierce Arrow. The property for the site measures 100x159 feet. The building will be only one story for the present, costing $25,000, but three more stories will be added later, at a total cost of $100,000. The corner store will be taken by the lessees, while the balance of the structure will be rented to several other agencies.

The Week's Incorporations.

Jackson, Mich.—B. M. Byrne Garage Co., under Michigan laws, with $5,000 capital.

Eau Claire, Wis.—American Motor Co., The, under Wisconsin laws, changes name to the Burdick Motor Co.

Joliet, Ill.—Economy Motor Buggy Co., under Illinois laws, with $60,000 capital. Corporators—H. L. Thompson, J. F. Beuret, J. C. Flower, Joliet.

Perth Amboy, N. J.—Perth Amboy Garage Co., under New Jersey laws, with $50,000 capital. Corporators—H. L. Wolff, M. Gibian, H. Brower, F. Hilsdorth, Perth Amboy.

Milwaukee, Wis.—Wisconsin Auto and Tire Repair Co., under Wisconsin laws, with $10,000 capital. Corporators—John J. Rohde, Albert R. Hulick and David D. Smith.

Utica, N. Y.—Iroquois Auto Top Company of Utica, under New York laws, with $15,000 capital. Corporators—Lee L. Laman, Frederick Widmer, Utica, and Frank Fitch, Newport.

Bridgeport, Conn.—Rantz Motor Sales Co., The, under Connecticut laws, with $10,000 capital; to start with $2,500. Corporators—Erwin M. Jennings, F. A. Rantz and Fred D. Unwin.

New York City, N. Y.—Pierson Motor Supply Company, under New York laws, with $20,000 capital. Corporators—H. M. Brown, Helen T. Pierson, and E. J. Forhan, 154 Nassau St., New York.

Portland, Me.—Hurlburt Co., The, under Maine laws, with $400,000 capital; to manufacture and deal in motor cars. Corporators—Clarence E. Eaton, president; T. L. Croteau, treasurer; both of Portland.

Providence, R. I.—Hitchcock-Banks Motor Car Co., under Rhode Island laws, with $25,000 capital. Corporators—Henry D. Banks, Alva S. Hitchcock and Henry P. Eldredge, Jr., with offices at 179 Aborn street.

Buffalo, N. Y.—Joseph Strauss & Son, under New York laws, with $100,000 capital; to manufacture and deal in bicycles and automobiles. Corporators—Joseph Strauss, Theresa Strauss, George C. Strauss, 431 Hickory Street, Buffalo, N. Y.

Detroit, Mich.—Detroit Automobile Dealers Association, The under Michigan laws; to promote the automobile business through shows and races. Corporators—George E. Lane, John P. Schneider, Robert K. Davis, J. H. Brady and George Grant.

Reading, Pa.—Reading Taxicab Company, under Pennsylvania laws, with $20,000 capital; to transport persons, baggage and freight by means of taxicabs and motor cars. Corporators—Hunter Eckert, Harry C. Koller, and Robt. W. Daniel, Reading.

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N. A. A. M. GIVES AID TO A. A. A.

Executive Committee Votes to Extend Financial Assistance—Stoddard Added to the Committee Membership.

In addition to placing a new name on the executive committee's roster and admitting another member to the organization, the regular monthly meeting of the executive committee of the National Association of Automobile Manufacturers, held in New York City on the 2d inst., resulted in the rendering of financial assistance to the American Automobile Association. The committee also set the date for the next annual meeting of the organization as January 20, during the week of the Licensed show at Madison Square Garden.

The Waverley Co., of Indianapolis, Ind., which some time ago bought the Pope-Waverley plant and is operating it, was elected to membership in the association, while C. G. Stoddard, vice-president of the Dayton Motor Car Co., of Dayton, O., was made a member of the executive committee. President Hotchkiss, of the A. A. A., appeared before the members of the committee and made it clear that his association was in considerable need of such financial assistance as the automobile manufacturers could give it. As a result of his representations, the committee decided to recommend that $5,000 be transferred from the N. A. A. M. surplus to the A. A. A. treasury.

The N. A. A. M. committee again took occasion to assert that organization's view that the control of automobile racing in the United States should rest with he A. A. A., and a resolution to this effect was carried. The resolution, however, was declared to have no relation with the announced intention and policy of the A. A. A. of having nothing further to do with motor car racing on circular tracks of a mile or less in circumference.

One of the Pioneers Dead.

Word was received in New York early this week of the death at his home in Somerset, Va., of R. Lindsay Coleman, one of the pioneers of the automobile industry and until its comparatively recent failure, the head of the National Battery Co., of Buffalo. Coleman, however, was best known as an official of the $40,000,000 American Bicycle Co.—the bicycle trust—of which he was president at the time of its collapse in 1903. In 1899 that big combination had commenced to dabble in automobiles, a three-wheel runabout with hot-tube ignition being its first production. It was offered at a popular price and was expected to sweep the country. Instead the Trust had a lot of the junk left on its hands. Later the A. B. C., as it was generally known, organized the International Motor Car Co., which built the Toledo steamer and out of which, by a process of evolution, came the Pope-Toledo gasolene car. When the American Bicycle Co. collapsed after much internal warfare and a bitter fight between Mr. Coleman and Col. Albert A. Pope, which fight continued until the distribution of its assets, Coleman acquired the National Battery Co., and Col. Pope retained practically all else that remained.

American Leatherette in Bankruptcy.

The American Leatherette Mfg. Co., of Buffalo, N. Y., was on the 23d ult., declared a bankrupt, in the United States district court for the western district of New York. William H. Hotchkiss, the referee in bankruptcy, has called a meeting of the creditors for December 14, at 11 a. m. It will be held in the bankruptcy court room, Room 1103, of the D. S. Morgan building, Buffalo.

To Handle B. & S. Goods in New York.

To provide a ready Metropolitan stock of its products, the Billings & Spencer Co., of Hartford, Conn., has appointed Patterson, Gottfried & Hunter, 211 Center street, New York City, distributors for the B. & S. lines in Manhattan and its vicinity. The latter firm will handle the business with dealers on the same basis as the factory.

National Sales is Sales Manager.

The National Sales Corporation, of New York, Chicago and Buffalo, has been appointed factory sales manager for the Bergman Tool Co. The latter concern has bought a large factory site in Buffalo, N. Y., and will manufacture a line of automobile pliers among other accessories.

Clinton Goes with Fiat Import.

Harry T. Clinton, formerly publicity manager for the A. L. A. M., has resigned as secretary of the contest committee of the Automobile Club of America. He has accepted the position of agency manager for the Fiat Import Co., of New York.

Pioneer Auto Top Building Bigger.

Western demands for automobile tops have been such that the Pioneer Auto Top Mfg. Co., of Kansas City, Mo., has begun the erection of a new factory building. It will be two stories high and will be at 1721 Baltimore avenue.

Badger Brass Buys a Factory.

To secure more manufacturing space, the Badger Brass Mfg. Co., of Kenosha, Wis., has purchased the old Meiselbach bicycle factory adjoining its plant. The purchase is subject to court confirmation, but is practically effected.

Goodyear Establishes New Branches.

The Goodyear Tire & Rubber Co., of Akron, Ohio, has established two new branches. The first is in Washington, D. C., at 1026 Connecticut avenue, N. W., and the second in Atlanta, Ga., at 90 Pryor street.

NO CURE, NO PAY, COURT SAYS

Important Decision Involving the Results of Repairs—They Must Prove Effective for a Reasonable Period.

No cure, no pay, is the decision of Justice Lauer, as regards cases where a garage makes repairs upon a car that refuses to run properly for a reasonable length of time thereafter. This decision which is of big importance to owners and repair men alike, was handed down in the Municipal court of the Third Manhattan District in the case of Wyckoff, Church & Partridge vs. August Hecksher, of Huntington, L. I., which came up for trial on Friday, December 4.

The plaintiff sued for $267.12, representing three items: $160 for repairs, $29 for labor and services, and $78.12 for a new armature. Hecksher declared that after a few trips to Huntington and back the car "went dead," and that he refused to pay the bill on the ground that repairs were of no benefit to him or his car. Judge Lauer decided that the plaintiff cannot recover the amount because the car did not continue in "good running condition" for a reasonable length of time. The only item the court ordered Hecksher to pay was the one for the armature.

Beatrice to Try Out Jonz Car.

It will be a trying and anxious day for the demonstrator of the new Jonz car when the machine is put through its paces before the members of the Beatrice Commercial Club, of Beatrice, Neb. The club has agreed to buy $10,000 worth of the stock of the Jonz Auto Co., provided the car performs well and manifests the advantages over other types that are claimed for it by the makers. The manufacturing company is located in Beatrice, and at its small factory is making a car with an engine for which many radical and ingenious features are claimed.

Fickling Leases Big New York Building.

Fickling & Co., Inc., of New York City and New Haven, Conn., have leased a seven story building at 304-6 West Forty-ninth street, Manhattan, where several departments will be added to the present business of top and body manufacture. C. Royce Hough, formerly factory manager of the Pope-Waverley factory, has been engaged as general manager of the company, while D. W. Gluck has been appointed sales manager.

G & J Transfers Graves to Boston.

T. B. Graves, of the G & J Tire Co.'s branch at Chicago, has been appointed New England representative for the company, succeeding D. B. Price. He will make his headquarters in Boston.

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TARIFF HEARING IS POSTPONED

American Makers Allowed Time to Meet Importers' Demand for Reduction—Vital Statistics of Home Industry.

Following the preparation of a brief which was printed in last week's issue of the Motor World, members of the Motor Car Manufacturers Tariff Commission presented themselves before the Ways and Means Committee of the House of Representatives at Washington on Monday last, 7th inst., for a hearing on the question of a revision of the Automobile tariff in connection with the framing of a proposed bill by the house committee. As the representatives of the manufacturers' interests were not prepared to present their claims in full, however, they asked for further time in which to prosecute their investigations of the relative labor conditions here and abroad. The request was granted by Chairman Payne, who allowed an extension of two weeks. Benjamin Briscoe, chairman of the American Motor Car Manufacturers Association acted as spokesman for the manufacturers.

As told exclusively in these columns last week, the handling of the tariff matter has been vested in a joint committee representing the Licensed Association and the National Association of Automobile Manufacturers, as follows:

H. B. Joy, Packard Motor Car Co.; A. L. Riker, Locomobile Co.; L. H. Kittredge, Peerless Motor Car Co.;G. H. Stillfell, Franklin Motor Car Co.; E. R. Thomas, E. R. Thomas Motor Co.; R. E. Olds, Reo Motor Car Co.; and Thomas Henderson, Winton Motor Car Co. Accompanying the committeemen on the Washington trip were Alfred Reeves, manager of the A. M. C. M. A.; Charles Stoddard, vice-president and general manager of the Dayton Motor Car Co., Dayton O.; Job Hedges, counsel for the A. M. C. M. A., and Thomas Francis Moore, the New York press agent, whose activities in organizing and promoting various racing organizations and contests have brought him actively into touch with numerous New York interests, notably those of the automobile importers.

Conflicting stories as to the views of the three controlling organizations of the manufacturers have led to some question as to the unanimity of the position which the tariff commission will take in urging a separate classification for automobiles among the imports instead of their present rating among other "manufactures of metal not otherwise provided for," and an adjustment of the duty on a wage equating basis. Inquiry at the offices of the A. L. A. M., however, brought forth an emphatic denial that the members of that body are working for an increase of the duty of from 45 to 60 per cent., as stated last week by a New York technical paper. Further it was learned from an authoritative source that not simply are the members of the manufacturers' tariff commission in perfect accord in representing the advantages of retaining the present duty, but that their views are shared individually by practicaly all manufacturers, regardless of creed or affiliation.

Incidentally, the representations of Charles M. Sherrill, counsel for the Importers' Automobile Salon, made at Washington on the 27th of November, have roused considerable protest from the American makers' side.

In a statement issued over the signature of E. P. Chalfant, general maneger of the A. L. A. M., early this week, the reverse of the importers' picture of the opulence of the American industry is made to appear with great distinctness. Instead of the continued reign of prosperity which Sherrill depicted, it is stated in all frankness that "American automobile manufacturers have not made exorbitant profits, and a relatively small number of them have made profits at all."

It is pointed out that in 1902, when the American industry first began to assume definite and independent proportions, there were just 51 concerns actively engaged in business. During the ensuing five years and up to the beginning of the present year, no less than 270 new concerns have started up, while 155 have been discontinued. Of the original half-hundred only 21 have survived and are at present in business. The total number of going concerns in the industry at the beginning of 1908 was 166, as shown by the accompanying table. There are now listed 253 American manufacturers of automobiles, "of whom," says the statement in question, "about 100 are turning out cars in fair quantity."

"It is safe to say," Chalfant continues, that not 10 per cent. of the American automobile manufacturers are making money. A great deal of the manufacturers' money goes for experimentation. The large amount of capital required and the character of the business eat into the profit of the business very materially. Clearly the industry deserves proper protection from the normal production and the over-production of the European factories, with their cheap labor, low rate of taxes, and preferential rates on manufacturing machinery. In this country the cost of labor is two and one-half times what it is abroad. Materials abroad are cheaper, ground rent is less, the cost of living is less, the industry is taxed less, and all machinery imported for use in a new industry is admitted duty free or at a preferential tariff.

"When making the statement that 90 per cent. of the imported cars arrived in the shape of naked chassis, it was apparently forgotten that just a little more than 40 per cent. of the cars imported during the last twelve months were complete with bodies, and that bodies for the remaining 60 per cent. (by no means all of them minus bodies) would not keep busy for more than a portion of the year even one of the two carriage makers whom Mr. Sherrill mentions as having been kept alive by the business of the importers, whereas all the carriage makers outside the metropolitan district probably do not collectively get a dozen bodies to manufacture in a year for imported cars.

"Tariff rates must afford ample protection to American made goods, and provide a customs duty on imports equal to the difference in cost of production here and abroad."

In the course of an interview subsequent to Monday's visit of the manufacturers' commission to Washington, Benjamin Briscoe, president of the Maxwell-Briscoe Motor Co., is credited with the declaration that although his company has turned out no less than 8,000 runabouts during the last three years, they never have made more than $86 profit per car.

Giving a rough estimate of the cost of production, he said that a car costing $1,000 to build represents about $375 for labor, $600 for the material and $25 for the material used in operating the plant. Abroad the same car can be built for about $595, representing $420 for material, $150 for labor and $25 for operating expenses. With freight charges and 45 per cent. duty added to this the car could be landed here for about $900; which, he thought, goes to show that the present duty is too low, rather than too high.

Vital Statistics of the American Automobile Industry from 1902 to 1907.

	1902	1903	1904	1905	1906	1907	Totals.
New concerns started	*	71	54	51	43	51	270
Discontinued that year	18	30	40	38	29	..	155
Concerns carried over into following year	33	41	14	13	14	..	†115

* Concerns in business 1902, 51; of which 21 now survive.
† In business December 31, 1906, 166.

Harrison Estate Declared Bankrupt.

The estate of William Harrison, president of the Harrison Automobile Co., the Harrison Wagon Works, and the Harrison Land Co., of Grand Rapids, Mich., has been declared bankrupt, in the United States district court. The case was one in involuntary bankruptcy brought some time ago against Harrison personally after his automobile company got into financial difficulties. Harrison filed an answer and demanded a jury trial, but he died before the case was heard. Kirk E. Wicks, referee, has been put in charge of the estate, and schedules of assets and liabilities will be filed with him.

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WHO WILL EXHIBIT AT CHICAGO

Show Roster Gives a List of 244 Stands, of Which 94 Will Display Cars—Full Catalog of the Exhibitors.

With customary promptness the list of exhibitors at the Chicago show has been announced long before the opening of the first of the New York exhibitions, although the Chicago dates are still very remote—February 6-15. The roster shows a total of 244 stands, of which 94 will be given over to the display of cars and 131 to the exhibits of parts and accessories. In addition to these, there will be no less than 19 motorcycle displays. The floor plans show that the arrangement of exhibits in the coliseum and First Regiment armory will be much the same as in former years, the main floors and the Coliseum basement being devoted principally to car exhibits while the galleries will be used to stage the accessories. The elimination of the independent commercial section does away with the old Tattersalls academy adjunct of last year's show. The complete list follows:

Coliseum — Main Floor.

Winton Motor Carriage Co., Cleveland, Ohio.
Pope Mfg. Co., Hartford, Conn.
E. R. Thomas Motor Co., Buffalo, N. Y.
Stevens-Duryea Co., Chicopee Falls, Mass.
Peerless Motor Car Co., Cleveland, Ohio.
Elmore Mfg. Co., Clyde, Ohio.
Woods Motor Vehicle Co., Chicago, Ill.
Thomas B. Jeffery & Co., Kenosha, Wis.
Babcock Electric Carriage Co., Buffalo, N. Y.
Baker Motor Vehicle Co., Cleveland, Ohio.
F. B. Stearns Co., Cleveland, Ohio.
Reo Motor Car Co., Lansing, Mich.
Packard Motor Car Co., Detroit, Mich.
Everitt-Metzger-Flanders Co., Detroit, Mich.
Premier Motor Mfg. Co., Indianapolis, Ind.
Studebaker Automobile Co., South Bend, Ind.
National Motor Vehicle Co., Indianapolis, Ind.
Haynes Automobile Co., Kokomo, Ind.
The White Company, Cleveland, Ohio.
Dayton Motor Car Co., Dayton, Ohio.
Cadillac Motor Car Co., Detroit, Mich.
Maxwell-Briscoe Motor Co., Tarrytown, N. Y.
Locomobile Co. of America, Bridgeport, Conn.
H. H. Franklin Mfg. Co., Syracuse, N. Y.
Apperson Bros. Automobile Co., Kokomo, Ind.
Buick Motor Co., Flint, Mich.
Holzman Automobile Co., Chicago, Ill.
Pope Motor Car Co., Hartford, Conn.
American Locomotive Co., 1886 Broadway, New York.
George N. Pierce Co., Buffalo, N. Y.
Olds Motor Works, Lansing, Mich.
Corbin Motor Vehicle Corporation, New Britain, Conn.
Matheson Motor Car Co., Wilkes-Barre, Pa.
Knox Automobile Co., Springfield, Mass.
The Bartholomew Co., Peoria, Ill.
Lozier Motor Co., Broadway & 55th street, New York.
De Luxe Motor Car Co., Detroit, Mich.
Mitchell Motor Car Co., Racine, Wis.
Ricketts Auto Works, South Bend, Ind.

Coliseum Annex — First Floor.

Chalmers-Detroit Motor Co., Detroit, Mich.
Simplex Motor Car Co., Mishawaka, Ind.
York Motor Car Co., York, Pa.
Austin Automobile Co., Grand Rapids, Mich.
Oakland Motor Car Co., Pontiac, Mich.
Pennsylvania Auto-Motor Co., Bryn Mawr, Pa.
Midland Motor Co., Moline, Ill.
Welch Motor Car Co., Pontiac, Mich.

First Regiment Armory — Main Floor.

Kissel Motor Car Co., Hartford, Wis.
Speedwell Motor Car Co., Dayton, Ohio.
Buckeye Mfg. Co., Anderson, Ind.
Jackson Automobile Co., Jackson, Mich.
Columbus Buggy Co., Columbus, Ohio.
Moon Motor Car Co., St. Louis, Mo.
Atlas Motor Car Co., Springfield, Mass.
Dorris Motor Car Co., St. Louis, Mo.
Overland Automobile Co., Indianapolis, Ind.
Cartercar Company, Detroit, Mich.
The Waverley Co., Indianapolis, Ind.
W. H. Kiblinger Co., Auburn, Ind.
Mora Motor Car Co., Newark, N. Y.
Nordyke & Marmon Co., Indianapolis, Ind.
Moline Automobile Co., East Moline, Ill.
Auburn Automobile Co., Auburn, Ind.
Anderson Carriage Mfg. Co., Anderson, Ind.
Chicago Coach & Carriage Co., Chicago, Ill.
Rapid Motor Vehicle Co., Pontiac, Mich.
Black Mfg. Co., Chicago, Ill.
Meteor Motor Car Co., Bettendorf, Iowa.
Streator Motor Car Co., Streator, Ill.
Staver Carriage Co., Chicago, Ill.
Anderson Carriage Co., Detroit, Mich.
Model Automobile Co., Peru, Ind.
J. V. Lindsley & Co., Dowagiac, Mich.
Ft. Pitt Motor Mfg. Co., New Kensington, Pa.
Wayne Works, Richmond, Ind.
Gaeth Automobile Co., Cleveland, Ohio.
Berliet Import Co., Chicago, Ill.
Rauch & Lang Carriage Co., Cleveland, Ohio.
C. P. Kimball & Co., Chicago, Ill.

Coliseum Basement.

Zimmerman Mfg. Co., Auburn, Ind.
Joseph Devore, Chicago, Ill.
Schacht Mfg. Co., Cincinnati, Ohio.
Randolph Motor Car Co., Chicago, Ill.
The Rider-Lewis Motor Car Co., Muncie, Ind.
Interstate Automobile Co., Muncie, Ind.
The Bendix Co., Chicago, Ill.
E. R. Thomas Motor Co., Buffalo, N. Y.
Owen Thomas Motor Car Co., Janesville, Wis.
Grabowsky Power Wagon Co., Detroit, Mich.
20th Century Motor Car Co., South Bend, Ind.
Clark-Hatfield Auto Co., Oshkosh, Wis.
Mier Carriage & Buggy Co., Ligonier, Ind.
The Cameron Car Co., Beverly, Mass.
The Fellwock Auto & Mfg. Co., Evansville, Ind.

Coliseum Annex — Second Floor.

Minneapolis Motor Cycle Co., Minneapolis, Minn.
The Pierce Cycle Co., Buffalo, N. Y.
Merkel-Light Motor Co., Pottstown, Pa.
Reading Standard Co., Reading, Pa.
Hornecker Motor Mfg. Co., Genesee, Ill.
Armac Motor Co., Chicago, Ill.
New Era Gas Engine Co., Dayton, Ohio.
Magnet Motor Co., Chicago, Ill.
Hendee Mfg. Co., Springfield, Mass.
Harley-Davidson Motor Co., Chicago, Ill.
Excelsior Motor & Mfg. Co., Chicago, Ill.
Wagner Motor Cycle Co., St. Paul, Minn.
Consolidated Mfg. Co., Toledo, Ohio.
Ovington Motor Co., New York.
Aurora Automatic Machinery Co., Aurora, Ill.
Thiem Mfg. Co., Minneapolis, Minn.
The Auto-Bi Co., Buffalo, N. Y.
American Motor Co., Brockton, Mass.
N. S. U. Motor Co., New York.

Coliseum Gallery.

Motor & Accessory Mfrs., Inc., Union Bldg., Newark, N. J.
The Sprague Umbrella Co., Norwalk, Ohio.
Cooks Standard Tool Co., Kalamazoo, Mich.
A. O. Smith Co., Milwaukee, Wis.
Imperial Brass Mfg. Co., 3455 South Jefferson street, Chicago.
Hartford Suspension Co., 150 Bay street, Jersey City, N. J.
C. A. Shaler Co., Waupun, Wis.
Valentine & Co., 257 Broadway, New York.
The Republic Rubber Co., Youngstown, Ohio.
Auto Improvement Co., 316 Hudson street, New York.
American Electrical Novelty & Mfg. Co., 304 Hudson street, New York.
Hancock Mfg. Co., Charlotte, Mich.
Atwater Kent Mfg. Works, 42 N. 6th street, Philadelphia, Pa.
Warner Instrument Co., Beloit, Wis.
N. Y. & N. J. Lubricant Co., 14 Church street, New York.
F. H. Wheeler, P. O. Box 276, Indianapolis, Ind.
Vesta Accumulator Co., 1334 Michigan avenue, Chicago, Ill.
Whitney Mfg. Co., Hartford, Conn.
Motsinger Device Mfg. Co., Pendleton, Ind.
A. W. Harris Oil Co., Providence, R. I.
Morgan & Wright, Detroit, Mich.
R. E. Dietz Co., 60 Laight street, New York.
Timken Roller Bearing Axle Co., Canton, Ohio.
The Hartford Rubber Works Co., Hartford, Conn.
McCord Mfg. Co., Detroit, Mich.
Chicago Battery Co., Chicago, Ill.
The Diamond Rubber Co., Akron, Ohio.
Brown-Lipe Gear Co., Syracuse, N. Y.
Spicer Universal Joint Mfg. Co., Plainfield, N. J.
The Veeder Mfg. Co., Hartford, Conn.
Gray & Davis, Amesbury, Mass.
G & J Tire Co., Indianapolis, Ind.
National Carbon Co., Cleveland, Ohio.
The B. F. Goodrich Co., Akron, Ohio.
C. F. Splitdorf, 265 Walton avenue, New York.
Gabriel Horn Mfg. Co., Cleveland, Ohio.
Goodyear Tire & Rubber Co., Akron, Ohio.
Long Mfg. Co., 119 Michigan street, Chicago, Ill.
Swinehart Clincher Tire & Rubber Co., Akron, O.
Jones Speedometer, 127 West 32d street, New York.
R. E. Hardy Co., 86 Watts street, New York.
Warner Gear Co., Muncie, Ind.
Diamond Chain & Mfg. Co., Indianapolis, Ind.
Wm. Cramp & Sons Ship & Engine Bldg. Co., Philadelphia, Pa.
The Electric Storage Battery Co., Philadelphia, Pa.
Pennsylvania Rubber Co., Jeannette, Pa.
Heinze Electric Co., Lowell, Mass.
Baldwin Chain & Mfg. Co., Worcester, Mass.
Remy Electric Co., Anderson, Ind.
Duff Mfg. Co., Pittsburg, Pa.
Firestone Tire & Rubber Co., Akron, Ohio.
M. & A. M., Inc., office.
Never-Miss Spark Plug Co., Lansing, Mich.
Oliver Mfg. Co., 203 S. Desplaines street, Chicago.
S. F. Bowser & Co., Inc., Fort Wayne, Ind.
The Edmonds & Jones Mfg. Co., Detroit, Mich.
Kokomo Electric Co., Kokomo, Ind.
Byrne-Kingston & Co., Kokomo, Ind.
Weed Chain Tire Grip Co., 28 Moore street, New York.
The Pantasote Co., 11 Broadway, New York.

Coliseum Annex — Second Floor.

Stewart & Clark Mfg. Co., 502 Diversey boulevard, Chicago.
C. T. Ham Mfg. Co., Rochester, N. Y.
Gray-Hawley Mfg. Co., 605 Fort street, Detroit, Mich.
J. H. Sager Co., Rochester, N. Y.
Ajax-Grieb Rubber Co., 1776 Broadway, New York.
Joseph Dixon Crucible Co., Jersey City, N. J.
Ross Gear & Tool Co., Lafayette, Ind.
National Coil Co., Lansing, Mich.
Adam Cooks Sons, 313 West street, New York.
Continental Caoutchouc Co., 43 Warren street, New York.
Leather Tire Goods Co., Newton Upper Falls, Mass.
Connecticut Telephone & Electric Co., Meriden, Conn.
Witherbee Igniter Co., 591 West 43d street, New York.
Motz Clincher Tire & Rubber Co., Akron, Ohio.
Whiteley Steel Co., Muncie, Ind.
National Battery Co., Buffalo, N. Y.
L. C. Chase Co., 89 Franklin street, Boston, Mass.
Michelin Tire Co., Milltown, N. J.
The Globe Machine & Stamping Co., Cleveland, O.
The Hoffecker Co., Motor Mart, Boston,, Mass.
Fox Metalic Tire Belt Co., 15 Murray street, New York.
The Randall-Faichney Co., Boston, Mass.
Avery Portable Lighting Co., Milwaukee, Wis.
Pittsfield Spark Coil Co., Dalton, Mass.
Limousine Carriage Mfg. Co., 3515 Michigan avenue, Chicago, Ill.
Empire Automobile Tire Co., Trenton, N. J.

First Regiment Armory Gallery.

London Auto Supply Co., 1229 Michigan avenue Chicago, Ill.
Austro-American Separator Co., Cleveland, Ohio.
Edward Neely & Co., 244 Wells street, Chicago.
Metal Stamping Co., 40 Hubert street, New York.
Central Rubber Co., 82 Lake street, Chicago, Ill.
Vivax Storage Battery Co., 2224 Michigan avenue, Chicago, Ill.
Commercial Battery Electric Co., 204 Michigan street, Chicago, Ill.
Morrison-Ricker Mfg. Co., Grinnell, Iowa.
S. Breakstone, 900 Fisher Bldg., Chicago, Ill.
American Thermo-Ware Co., 16 Warren street, New York.
Stromberg Motor Devices Co., 1253 Michigan avenue, Chicago, Ill.
Standard Varnish Works, 2620 Armour avenue, Chicago, Ill.
McCanna Mfg. Co., 56 N. Jefferson street, Chicago, Ill.
Monitor Mfg. Co., 1425 Washington street, Boston, Mass.
Eugene Arnstein, 35th & Shields avenue, Chicago.
Excelsior Supply Co., 233 Randolph street, Chicago.
Quincy, Manchester, Sargent Co., Plainfield, N. J.
Ennis Rubber Mfg. Co., Newark, N. J.
Fred W. Smith, Aberdeen, S. D.
High Frequency Ignition Co., 2309 S. Main street, Los Angeles, Cal.
Westinghouse Co., Pub. Dept., Pittsburg, Pa.
Goshen Rubber Works, Goshen, Ind.
Elite Mfg. Co., Ashland, Ohio.
Universal Tire Protector Co., Angola, Ind.
Dayton Rubber Co., Dayton, Ohio.

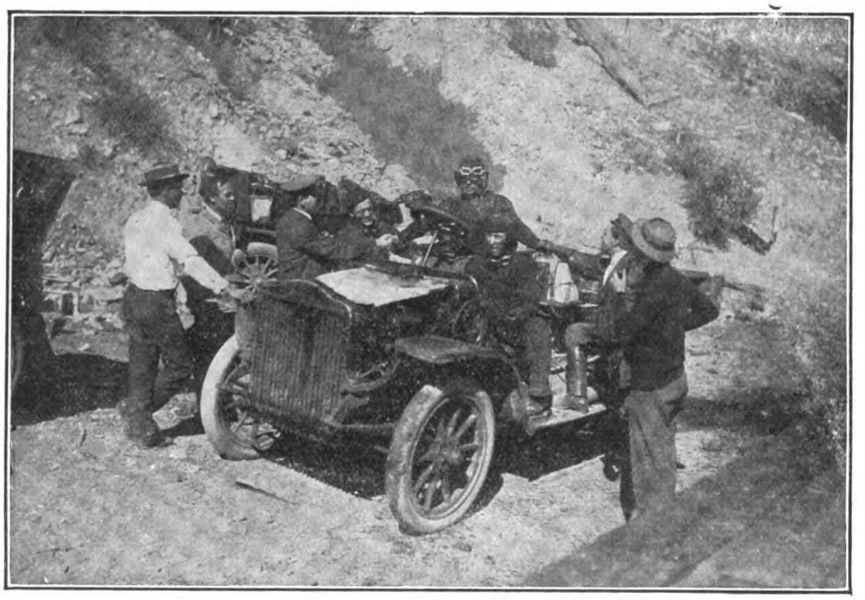
Coliseum Basement.

Duplex Coil Co., Fond du Lac, Wis.
Norton Co., Worcester, Mass.
Chicago Recometre Co., 1251 Michigan avenue, Chicago, Ill.
Pfanstiehl Electrical Laboratory, North Chicago, Ill.
Triple Action Spring Co., 67 E. 21st street, Chicago, Ill.
Garage Equipment Co., 201 22d street, Milwaukee, Wis.
Ernst Flentje, 1643 Cambridge street, Cambridge, Mass.
Fulton & Zinke, 1256 Michigan avenue, Chicago.
F. E. Sparks, 1337 Michigan Blvd., Chicago, Ill.
The Troy Carriage Sun Shade Co., Troy, Ohio.
Chicago Wind Shield Co., 235 Johnson street, Chicago, Ill.
Vehicle Top & Supply Co., 900 Cass avenue, St. Louis, Mo.
Longdin-Brugger Co., Fond du Lac, Wis.
High Wheel Auto Parts Co., Muncie, Ind.
Champion Ignition Co., Flint, Mich.
E. T. Burrowes Co., 70 Free street, Portland, Me.
Vanguard Mfg. Co., Joliet, Ill.
Royal Equipment Co., Bridgeport, Conn.
Bosch Magneto Co., 1253 Michigan avenue, Chicago, Ill.
The Buda Foundry & Mfg. Co., Railway Exchange Bldg., Chicago, Ill.
Nadall Mfg. Co., 1430 Michigan avenue, Chicago.

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WHITE WINS

Los Angeles to Phoenix Road Race



A brilliant victory was scored by the White Steamer in the recent stock-car race through the mountains and over the desert from Los Angeles, California, to Phoenix, Arizona. Once again the White demonstrated that in a stock-car competition and over roads such as exist in most parts of the country it is faster than any other type of machine. Such a contest as the Los Angeles-Phoenix race is far more significant than a race between specially built cars over specially selected and carefully prepared highways. This latest White victory indicates to the purchaser just what kind of service he may expect from the type of car which he can buy and over roads such as he will have to cover.

The White is the fastest car on give-and-take roads, not because it has the highest-powered engine, but because it delivers at the rear wheels a larger percentage of the power of the engine than any other type. Furthermore, that power is available under all conditions, whether running fast or slow, and no time is lost in shifting gears or in waiting for the engine to "pick up speed." In other words, under ordinary road conditions, the flexibility of the White engine will do what great power in other types of engines cannot do.

Write for circular describing the 1909 models.

THE WHITE COMPANY

CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.

PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.

SAN FRANCISCO, Market St. at Van Ness Ave.
ATLANTA, 120-122 Marietta St.

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NEW YORK, DECEMBER 10. 1908.

The Congressional Viewpoint.

Tickets for Washington enjoy prospects of a good sale among those of the trade who are interested or affected by the tariff on motor cars and who are concerned about seeing it kept where it is. Many of the visitors will doubtless be oppressed with spells of the feeling which is common to most folks having no more than occasional contact with congress, that the big institution on Capitol Hill is hard to fathom because of the difficulty of getting the congressional viewpoint. To sell a man goods or to try a case before a court of law presents no great perplexities as to the general principles of campaign, but the aggregation of men known as "congress" are in the tariff matter neither prospective customers nor jurists on the bench. That particular group constituting the ways and means committee of the house of representatives, in the hands of which committee any changes in the motor car tariff largely lie, is supposed to be actuated in its deliberations and decisions by no other considerations than patriotism and the public good, which theoretically removes it from suspicion of either self-interest or a weakness for purely technical judgments.

Nevertheless, those familiar with Washington matters know that members of congress are very human in their limitations. The old campaigners on the ways and means committee have won their places there by recognizing public desire and public good as the same things, except when the speaker of the house shows them that his desire is it for the moment. Popular agitation for revision of the tariff has ultimately got to be met by some reductions, and in recognition of this the committee is cautiously finding out who will holler the least when the operation takes place, and on what items the schedule may be trimmed with the greatest flourish.

Whether the automobile be represented to the committee as a luxury like champagne or an every day article like wool cloth will make little difference. Even the elaborate statistics that will be elicited as to the industry and of which the committee will gravely make record, will not be subjected to much analysis or taken as seriously as the compilers might wish. But if the array of good, solid, likable American business men earnestly desiring to have the motor car tariff kept exactly where it is, greatly preponderates over the number of importers who want it removed or lowered, and these same American business men show up numerically strong in the committee room in the role of live citizens in their respective communities, having a touch of fighting blood in their veins, the tariff on automobiles will not be changed.

Cone Clutch Improvement.

Clutch construction has undergone many alterations in the course of the development of the motor car and it is remarkable that in so large a number of instances of otherwise advanced design that type of clutch is still employed which most nearly resembles the device associated with the earliest types of sliding change gear. Yet the plain cone clutch, however well it may have served its purpose in the past, and regardless of the manifold improvements which have been effected in its mounting and in other of its details, is yet possessed of so many drawbacks that in order to obviate them as completely as possible it becomes mechanically rather more complex than is wholly to the liking of the average engineer and much more so than is to the liking of the non-technical driver who is occasionally forced to wrestle with its parts.

Among the objections to its use which may be advanced, one of the most important is that its actuation requires a not inconsiderable amount of longitudinal pressure. In order to counteract this either the transmission mechanism must be made to include some sort of thrust bearing, or else the clutch itself must be so contrived as to absorb its own reaction, so to speak, thus becoming virtually self-contained. The most familiar method of bringing this about is to invert the two conical members which constitute the clutch proper, causing the driven cone to engage the female member attached to the fly wheel from the front or engine side. This system has been used to a considerable extent and with fairly good results. Several considerations which weigh against it, however, have caused it to be abandoned by a number of makers who were firm adherents of it for a time.

A possible combination of the two types of direct and inverted cone has recently come to notice in foreign practice, which seems to do away with several of the objections against either individual type, also combining with some of their advantages the additional feature of permitting the use of a large amount of frictional surface without requiring the large diameter which is one of the most prominent faults of the simple type. In this arrangement two pairs of cones are employed, the fly wheel having a conical face formed directly in it, and a second and inverted face formed by a ring member which is positively attached to it. Two male cones placed back to back and separated by a spring are adapted to engage the fly wheel surfaces.

Against the unquestionable complication of this arrangement it must be admitted that the elements of self-containment, freedom from the necessity for rotating thrust bearings, large area of contact and possible small diameter, count strongly in its favor. Further, it should prove less difficult to align than the plain cone types, provided the shaft is freed from dead weight. With a small amount of movement to release or engage, and with the possibility of considerable slippage without serious abrasion of the contacting surfaces, the idea is suggestive of numerous advantages which may be obtained in no other way with cone clutches.

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FORCE DEVELOPED IN COLLISIONS

Tremendous Effects of Kinetic Energy in Sudden Changes of Direction—Startling Possibilities of Motion.

Probably no one who has had the painful experience of being thrown from a motor car which was traveling at a high rate of speed has cared to stop and figure out just how much kinetic energy his body possessed at the instant it struck earth, nor how much force was involved in the impact when the car landed against some friendly obstacle. Nevertheless it is possible to calculate the forces in action at such times, and some consideration of their nature leads to a sane conclusion as to the importance of exercising a due amount of caution when driving a machine which is capable of very high rates of speed.

In its own serious way, the Scientific American analyses the potential source of damage which is stored in a car when running at various speeds, and incidentally reveals why in some cases cars which have collided with some permanent object when going very fast have been, so to speak, "smashed all to pieces." "An automobile, or, for that matter, any very swiftly moving vehicle is, in effect, a projectile which differs in no essential respect from a shell discharged from a modern field piece," that authority explains.

The kinetic energy which a projectile possesses in virtue of its mass and velocity is necessarily expended in destructive action when the flight of the projectile is suddenly arrested by an obstacle of any sort. The destructive effects are divided between the projectile and the obstacle in the inverse ratio of their respective powers to resist deformation. . . . . In automobiles and other vehicles the conditions are essentially the same as in the case of the projectile. If, for example, the brakes are applied to an automobile when it is running at full speed, the kinetic energy of the forward motion is gradually absorbed by the friction between the brakes and the wheels, and converted into heat, and the car is gradually brought to rest. Again, if the motor is stopped without applying the brakes, the energy of motion is gradually used up in overcoming the resistance of the air, the rolling resistance at the points of contact with the road, and the friction at the axle bearings. The car, therefore, comes to rest, after running a distance inversely proportional to the magnitude of these frictional and other resistances.

"To continue the comparison with a projectile, let us suppose that the car, running at full speed, is stopped against a light picket fence, and the motor is stopped. The car will shatter the fence and go through it almost unharmed and with little loss of speed, but if it encounters a succession of similar obstacles it will finally be brought to a stop. Nor would one solid board fence stop the automobile, though it would reduce its speed, but the car would probably dash itself to pieces against a rocky cliff or stout masonry wall, without materially affecting either of these obstacles. In short, the weaker of two colliding bodies sustains most of the damage caused by the collision.

"The effect depends also on the distance run by the vehicle between the first moment of impact and its final stoppage. Other things being equal the intensity of the destructive forces is inversely proportional to this distance, and the disintegrating effect of these forces depends more on their absolute intensity than upon the length of time during which they act. Hence a sudden stoppage, as in the case of collision with a stone wall, develops forces which the strongest materials cannot withstand.

"At the moment of impact against an obstacle the moving car possesses a certain kinetic energy which is equal to the product of the force required to bring it to rest multiplied by the distance through which that force acts. The kinetic energy is also equal to the mass of the car multiplied by half the square of its velocity. For a car weighing one ton and running at a speed of 30 miles per hour the kinetic energy is equal to 60 foot tons, or the work done in lifting the car 60 feet. In other words, the velocity of 30 miles per hour is about equal to the velocity acquired in falling 60 feet, and if a car moving with this velocity strikes an immovable obstacle it will fare as badly as it would in striking the ground after falling 60 feet. The force of the impact is proportional to the square of the velocity, and the sudden stoppage of a car going 60 miles an hour is equivalent to a fall of 240 feet.

"Now let us examine the conditions existing immediately after the impact. An automobile is an assemblage of many parts, of various degrees of strength. The shock is transmitted from the point of impact through all the parts, producing in each a tendency to break at its weakest point.

"The work done in pulling apart a steel bar one foot long and one inch square is equal to nearly 4½ foot tons, but an automobile weighing one ton and running 60 miles an hour possesses energy enough to sunder 25 such bars, or 50 steel bars of the same cross-section and half the length either successively or simultaneously. The same amount of energy would suffice to shear off 260 1-inch steel bolts or rivets, 50 ¾-inch bolts, 2,500 oak pins one inch square, or 25 oak beams 10 inches square. The energy of the car is one-fourth greater than that of the 12-pound shot which leaves the muzzle of a 3-inch gun with a velocity of 1,000 feet per second. Such a shot is crushed on striking an armor plate of hardened steel, although it is protected by a steel cap, and as a whole is stronger than any part of an automobile.

"In a head-on collision between two cars of equal weight and speed the amount of kinetic energy destroyed is twice the amount involved in the impact of either car against a fixed obstacle, but the destructive action is divided equally between the two cars so that the effect on each is equivalent to the effect produced by running into a stone wall. In a collision between a heavy and a light car, the latter suffers." ,

COMING EVENTS

December 12, Denver, Col.—Denver Motor Club's hill climbing contest, Lookout Mountain.

December 12, Worcester, Mass.—Worcester Automobile Club's 200 miles reliability and endurance contest.

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 1-2—Quaker City Motor Club's two days endurance run, Philadelphia to Wilkes-Barre, Pa., and return.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show, Madison Square Garden.

January 21-31, Los Angeles, Cal.—Automobile Dealers Association's show.

January 23-30, Philadelphia, Pa.—Philadelphia Automobile Trade Association's annual show.

January 27-February 3, Philadelphia, Pa.—Automobile Trade Association's eighth annual show, Second Regiment armory.

February 6-15. Chicago. Ill.—National Association of Automobile Manufacturers' Show, Coliseum and First Regiment Armory.

February 15-20, Cleveland, O.—Automobile show, Central Armory.

February 15, Detroit, Mich.—Detroit Automobile Dealers Association's show, Wayne Pavilion.

February 15-20, St. Louis, Mo.—Automobile Manufacturers and Dealers Association's annual show.

February 16-18, Denver, Col.—Denver Motor Club's first annual show, Auditorium.

February 22, Ceveland, O.—Cleveland Automobile Dealers Company's show, Central Armory.

February 27-March 3, Hartford, Conn.—Automobile Dealers' Association show.

March 1-6, Omaha, Neb.—Omaha and Council Bluffs dealers' show, Auditorium.

March 6-13, Boston, Mass.—Boston Automobile Dealers Association's (Inc.) seventh annual show, Mechanics Building.

March 10-13, Memphis, Tenn.—Automobile show, Auditorium building.

March 27-April 3, Pittsburg, Pa.—Automobile Dealers Association's show, Duquesne Garden.

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ART FEATURES FOR PALACE SHOW

Early English Decorative Scheme Includes Much Statuary—Automobiling Scenes to Form Huge Frieze.

"Wisdom instructing Youth in the mysteries of automobile construction," is to be the piece de resistance about which will center the decorative scheme of the Grand Central Palace when the first of the New York Shows is thrown open to the public on New Year's Eve. Besides Wisdom numerous other allegorical figures will grace the



STATUE FOR LOBBY

hall which has wont to be so barren in previous years, and these taken in conjunction with the general treatment which is characterized as being of "an early English style," will serve to make the setting of the show quite the most effective yet produced in the Palace.

Because the Palace Show is to be the only international exhibition of the year, the show committee of the American Motor Car Manufacturers' Association has seen the wisdom of searching abroad for the materials to be used in framing the setting. Accordingly representatives of the S. R. Ball Co., have been scouring England, France and Italy as well as this country for ideas to be used in embellishing the exhibition in befitting style. Wisdom personified in a figure of heroic mould is the crowning achievement, but it is not to be permitted to stand alone. The decorations instead of being confined to the interior of the building will be displayed externally in the form of an elaborate port cochere, while the entrance hall will be treated with the same care to rob it of its present dull appearance.

As announced some time ago, the first impression of the show will be of no small brilliancy, caused by the illumination of the port cochere, with its statuesque supporting figures, its ornamental balustrade and the illuminated ornamental background above, which embodies a deep frame surrounding an oil painting of a very wonderful car in mad flight and leaving behind it an illuminated trail of comet-like aspect.

The vestibule inside will be draped with the flags of the nations and with ornamental large urns, while at the stairway approach will be two life size female figures resting on an eagle supporting a wheel, one of which is here depicted. They are finished in verde antique, which is a press agent name for copperish green. The entire ceiling of the entrance hall leading to the main stairways will be canopied in silk with streams of electric light radiating from the center. The side walls will be decorated with mural paintings typifying various scenes dear to the heart of the motorist.

The main auditorium hall or "court of honor" will be the section subjected to the early English style of treatment. The balconies will be partially hidden by red orange colored tiling, which will extend some three feet outwards over the main hall, while carried down to a level and meeting the tops of the present capitals of the halls will be a frieze of scenes depicting automobile races and contests, including the Glidden Tour, the Vanderbilt Cup Race, and the Savannah road race. The main auditorium will have its ceiling covered with a fabric, atmospheric blue in color, which combined with lattice work, boxes, and urns of flowers and growing plants, will give to the gallery a hanging garden effect. At the end of the hall now occupied as a part of the stage, a real garden will be formed by bay trees, evergreens and flowers, together with a number of singing birds hung in gilded cages. By means of immense mirrors the effect will be accentuated and duplicated.

To divide the garden from the general exhibition hall, the show committee has selected "Wisdom and Youth," otherwise described as "a striking piece of statuary some 15 feet in length and 5 or 6 feet high, with life sized allegorical figures representing "Wisdom instructing Youth in the mysteries of automobile construction." In addition ten statues of original composition and heroic size will uphold garlands of flowers and streamers of electric light, which will lead to a sunburst chandelier in the center of the hall.

For the general decorations the prevailing tone will be white and gold, with festoonings of Berlin green, while for the floor covering, 8,500 yards of a specially woven bronze colored fabric will be used, instead of the usual denim. The tables, counters, railing and furniture will be a rich dark green in color, while the signs displaying the names of each car or exhibitor, will be of white with gold letters and moulding and green shading. They will be made of compo-board instead of oilcloth while the accessory exhibits will be graced in addition by a silk gold fringed banner suspended from a standard.

Refreshments this year will be served from a modern version of an old English inn, located in the third floor. It was at first intended to build a German wine cellar, it is painstakingly explained, but in order to harmonize with the prevailing style of architecture the management decided to



GODDESS OF SPEED

change it into a room modeled after the interior of a famous Kentish inn. To this end a stone wall effect will divide the room from the main exhibition hall, while old chandeliers, antique pewter dishes and mugs will lend color to the effect.

Dates for the Pittsburg Show.

The dates selected for the automobile show at Pittsburg, Pa., are March 27 to April 3, inclusive, and the affair will be held at the Duquesne Garden. The management will be in the hands of a committee of the automobile dealer's association, as in previous years.

Accessory Makers to Dine at Sherry's.

The Motor and Accessory Manufacturers, Inc., has decided to hold annual dinners, during show time each year. The first of these affairs will take place at Sherry's, New York City, on Wednesday evening, January 20.

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BOUNCING UP DOLLY COLE HILL

Baldwin Wins Rhode Island Hill Climbing Trophy a Third Time—Thrilling Speed on Rough and Snakey Incline.

Virtually winning the C. Prescott Knight cup for the third successive year, L. F. N. Baldwin, driving a Stanley steamer, became entitled to the permanent possession of that trophy on Saturday last, 28th inst., at the Rhode Island Automobile Club's seventh annual hill climb, although the "official results" are at present witheld. The contest was on "Dolly Cole" hill, Foster, near Providence—a slope six-tenths of a mile in length with an average grade of 7 per cent. Four events were on the program, a free-for-all being the feature of the afternoon.

It was in the latter event that Baldwin made the unofficial whirlwind time of 34 seconds, according to the clocker's watches, it having been announced just before the contest started that for some reason or other no official times would be given out for several weeks. In the field against Baldwin were three other contenders: William Bourque in a 50 horsepower Knox, J. P. Grady in a 40 horsepower Pope-Hartford and Joe Matson at the wheel of a 30 horsepower Corbin. Starting 50 feet back of the mark, the cars had the advantage of a slight down grade to increase their momentum before hitting the hill. All four made good ascents, but Baldwin in the specially built steam freak, again showed that at a short distance in a concentrated burst of speed, such a car is beyond the class of stock gasolene machines of the sort that are capable of sustaining high speed for hundreds of miles. Nevertheless, under the conditions of the deed of gift, Baldwin proved conclusively that he is entitled to the cup he has been striving three years to win. His ascent had some thrill in it, too. The hill was considerably curved and when Baldwin negotiated the dangerous "S" bend, he skidded around its snakey turns, on two wheels, slewing from one side of the road to the other, in a manner that jarred the nerves of the crowd of spectators. Rough stretches on the course made the steam kettle and some of the other contestants bounce along in wild fashion. Bourque in the Knox was reported to have made second best time in this event in 0:40, and Grady's Pope-Hartford showed up third in 0:41.

J. F. Corbett at the wheel of a Corbin, C. M. Linton with a Jackson, and Bourque in a smaller Knox were the contestants in the 24-40 horsepower class. Bourque shot up the incline at a terriffic clip and looked like a sure winner, but the judges failed to get his time at the start and he was forced to make the trial a second time. As it was, his second attempt, while possibly not as fast as his first, proved to be the best of the class, with Corbett second.

The 15-20 horsepower class saw one lone entrant, Oliver Light in a Chalmers-Detroit, while one event on the program was not run at all owing to the non-appearance of any of the entrants at the starting tape. In the one remaining bout, two steamers were the only starters: Baldwin and Blackington in 20 horsepower runabouts, Baldwin winning.

When the times are announced by the committee some weeks hence, the official figures still may be subject to inaccuracies in the majority of instances, due to the crude and inexact method of timing employed. It is obvious that in about every case the time must be at least a fraction of a second out of the way. As a means of clocking the cars a telephone was employed, with wires running from start to finish. The starter at the base of the hill would yell the word "go" into the telephone receiver as the cars thundered past the starting tape and the judges at the summit would set their stop-watches upon hearing the signal transmitted. The noise of the cars prevented the signal being heard clearly at first, causing Bourque and another contestant to run their heats a second time, when the judges failed to clock them. After this method proved unsatisfactory, it was arranged to signal the judges by the sounding of a telephone gong, when the receiver was removed from the hook—a process not as accurate as it might have been.

Endurance Run to Test a Magneto.

Endurance tests of cars have been planned and carried out under all sorts of conditions until they have lost a large part of their novelty and interest to the outsider, though they still continue to absorb the participants, but an endurance trial of a car made for the sake of trying out the durability of an accessory as well as to demonstrate its characteristics is rather out of the ordinary, even at this time. Just such a test, however, is being made by A. T. Mosher and Harry Harter, salesmen for the Remy Electric Co., who recently commenced a tour from the Anderson (Ind.) factory of the company, to Savannah and return, the route to include New Orleans, Galveston and St. Louis. The runabout they are using is equipped with one of the new Remy magnetos which, in addition to furnishing the ignition current for the motor, will serve a useful purpose in demonstrating to local dealers, garagemen and mechanics, the simplicity of the system as well as its durable qualities.

Big Purse for Road Race in Nevada.

Out in Goldfield, a party of capitalists who have been infected with the motor racing microbe, have come forward with the offer of a $30,000 purse to the automobile owners and drivers of the world, as an inducement to participate in a proposed road race to be held in Nevada next spring. According to correspondence from Reno, the movement is being headed by Tex Rickard and Tom Murphy, two wealthy mining men.

DES MOINES SEES FAST CLIMBING

Berner Drives a Steamer up West Grand Avenue Hill in Best Time—Twenty-Two Cars in Lively Contest.

In a bitter cold wind sweeping through the open country, on one of the chilliest days that Des Moines (Iowa) has seen this season, a large crowd of motor enthusiasts turned out to witness the Iowa Automobile Association's informal hill climb of Wednesday, December 2. It was the first contest of the kind ever held by this club and it took place on a slope on West Grand avenue, the course being three-fifths of a mile in length. The entry list, numbering more than a score of contestants, was gratifying to the promoters of the affair and a number of the drivers made good, if not phenomenal time.

There was no division as to class or price for the various contestants, though some of the 22 competitors were given two or three tries at the climb. One steamer was entered. This car, a Stanley, with Berner up, made the climb in 44½ seconds, which was 2 seconds better than its nearest competitor. Of the gasolene cars, Van Slyck, driving a Chalmers-Detroit "40", made the best performance. Starting up the incline with a good jump, he ate up the smooth, hard road with his engine singing a pretty tune and his tires kicking up the fine dust, in 0:46½. An ascent almost as lively and every bit as spectacular was that of Wallace, in the Stoddard-Dayton, who swung up the grade only one-half second slower. Many thought he had made the best time, until the announcement of 0:47 was made. Dr. Parriott, on his second trial in a Mason, also scored this figure.

In the early part of the contest, it seemed as though the light low priced cars were going to outdo their larger brothers. Harper, the first starter in one of the smallest mounts set up a figure of 0:49 flat and made the rest of the field realize that they would have to show some class. Then a few more contenders made the attack, Sears's Ford and Dr. Fellows's Buick among them, and all fell short, the latter making the slowest time of the meet—1:14. Following this, Dusenberg, in a Mason car, ripped off 0:51 flat, after which three other Masons made trials in 0:49 and 0:48 flat. Several of the small cars hit these same marks, making creditable showings.

Topeka Motor League Revives.

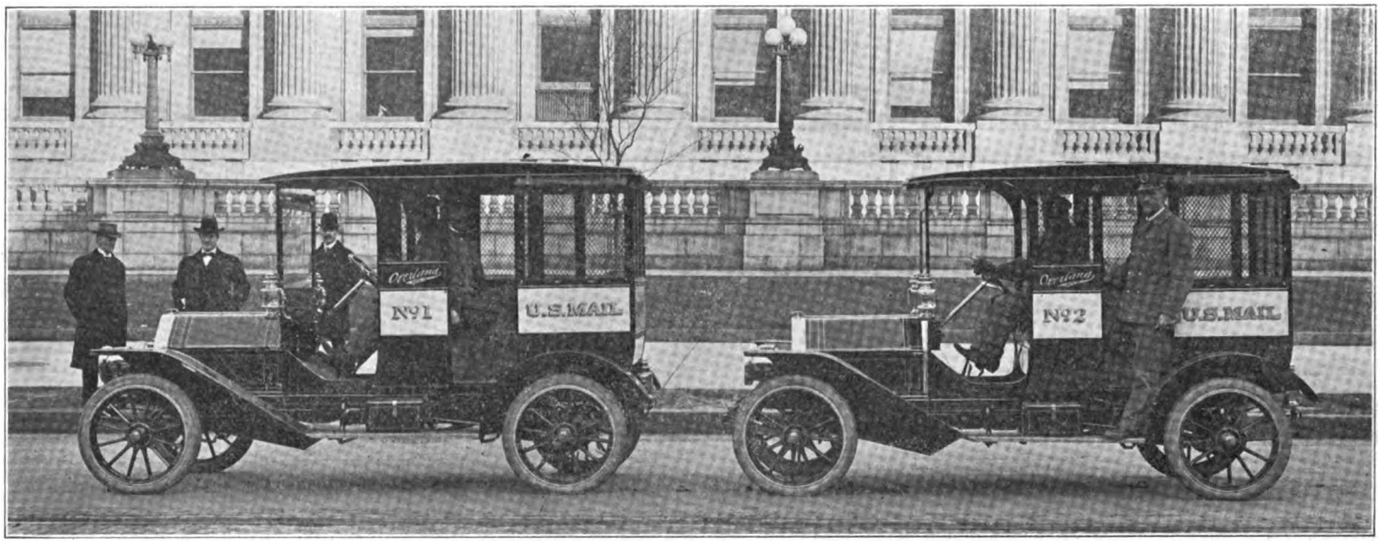
After lying dormant for some time, the Topeka Motor League has suddenly resurrected itself and hopes to flourish as it did in the days of yore. A new board of directors has been chosen, as follows: J. M. Padgett, Dr. H. H. Keith, Dr. F. H. Scholle, W. W. Mills, George W. Crane, F. M. Spencer and S. W. Lyman.

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SPECIAL MODEL FOR MAIL SERVICE

Indianapolis Facilitates City Delivery by Employing Overland Vehicles—New Features in the Design.

The application of the automobile to facilitate the postal service has led several manufacturers to build motor mail wagons, which have been tried with various regrees of success. One of the latest designs of this type of vehicle has been brought out by the Overland Automobile Co. and has several new features. The two wagons shown in the accompanying illustrations were put into service in Indianapolis, Ind., during the past week and are being used to de-centralize the bulk of the city's mail. Their value was felt at once, as it changed the delivery system materially and facilitated things from the start. Now, instead of returning to headquarters for each delivery, the carriers get their loads from branch stations and thereby save a great deal of time.



OVERLAND MAIL WAGONS IN USE AT INDIANAPOLIS

The two cars now in use have been leased to the Post Office authorities by the Overland company, which supplies the drivers and is responsible for the up-keep and repair of the machines. The bodies are mounted on regular 30 horsepower Overland chassis. They follow the general lines of limousine construction even to the glass wind shield in front of the driver.

The most novel feature of the design is in the arrangement of the seats for the driver and postal clerk. The wire netting which encloses the entire body is made to surround the two individual seats in such a way as to completely isolate the driver from the mail-carrying compartment, while affording the postal employe opportunity to keep the contents of the wagon continually under his eye. The general finish and painting of the vehicles is in accord with the standards applied to the horse-drawn vehicles in regular use by the department.

Incandescent Electric Lights in Garages.

The old question as to whether or not incandescent electric light bulbs are a menace to safety in garages, has been revived recently in Indianapolis, Ind. A week ago, the fire department was called out to attend to a blaze which started in the garage of the Indianapolis Motor Co., caused, it was asserted, by the breaking of an electric light bulb which was being used by mechanics working underneath a machine. When the break occurred, it was said, the car was immediately enveloped in flames, owing to the ignition of leaking gasolene. By quick work, the burning car was pushed out of the building into a heavy rainstorm, and the flames extinguished before much damage was done. When the firemen arrived, however, the majority of them refused to believe that the fire could have been caused in this way, contending that the breaking of the bulb would put out the light instantly and that ignition of the gasolene would be impossible. The garage people, however, declare that the extinguishing of the filament in the bulb is not absolutely instantaneous and that it would have sufficient time to ignite the vapor under such circumstances.

Small Cars Gain Favor in France.

Report has had it for some time that the popularity of the small car was increasing abroad, particularly in France, at a rate which was very remarkable in the light of the past favoritism of the large and luxurious machine. Recently the matter was put to the test by a Parisian journal which circularized all the principal provincial automobile agents in an effort to determine authoritatively what type of vehicle was in greatest demand. No less than 80 per cent. of the replies indicated a local preference for cars of from 8 to 10 horsepower and costing between $900 and $1,200.

ABOUT SETTING THE HEADLIGHTS

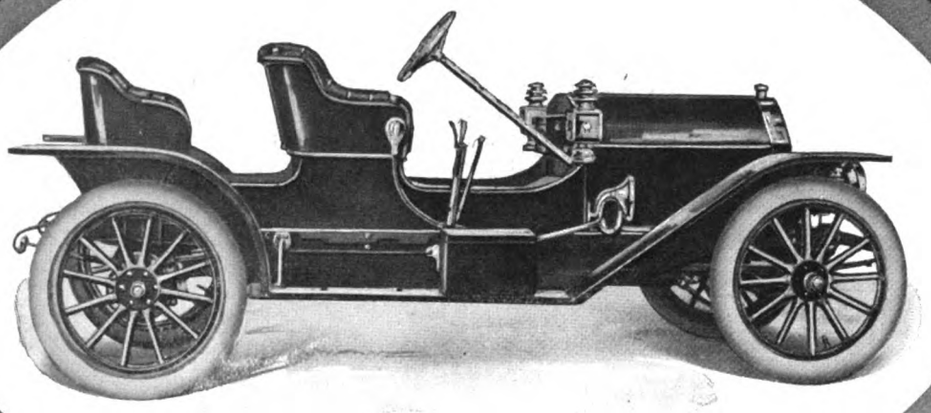
Drivers at Variance as to Best Way of Placing the Lamps—Advantages of Centralizing the Rays.

Some difference of opinion exists among motorists as to the proper method of setting the headlights of a car which is to be given any great amount of night work over rough roads. By some drivers it is held that the desirable thing is to place the lamps in such a way that the rays of light shall be thrown out in perfectly parallel and horizontal planes—the lamps themselves being adjusted with this in view by means of a plumb line, and a straight-edge laid across their lenses. Others hold that the light should be focussed on the road at a point not too far distant from the front of the car. To this end the lenses are sometimes placed so that the light is concentrated on a single point, while in others the rays from one of the headlights are directed forward and at only a very slight inclination below the horizontal plane, while those from the other are directed at the ground only a short distance from the front of the car. This "wall-eyed" arrangement is not ideal, however, as it sacrifices considerable of the illuminating value of one of the lamps. The centralizing arrangement, in which full advantage is taken of both beams, is considerably more advantageous even than that in which both beams are held perfectly parallel.

The Longest Automobile Freight Line.

What is claimed to be the longest automobile freight line in the country has been established between Croville and Brewster, in Okanogan county, Washington. The distance is 80 miles. Heretofore the line has been served by ordinary wagons, which took two days for the journey. The motor vehicles make the trip in eight hours.

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THE INTER-STATE—MODEL 28
$1750.00

Announcement

THE INTER-STATE CARS

The coming of the INTER-STATE marks a new era in automobile history.

From every man and woman interested in automobiling, either as present owner or as a prospective purchaser, the INTER-STATE commands attention—

Because—

It belongs to the highest class of the 1909 Automobile; is a perfectly-made, light-running, easily-controlled, speedy, graceful, enduring car.

And is sold at a price—$1750.00 complete, including Eisman Magneto—but little higher than the price asked for the "good-enough-until-later" cars.

Of this latter type there are many. The market is flooded with their titles and book-pages are crowded with their claims.

Of the INTER-STATE type there is but one **at any where near its price.** And **IT** is the INTER-STATE.

Where is the economy or the automobile satisfaction in buying a car that you will probably discard next year for a **real** car? Would it not be actual economy and also "good business' to buy the **real** car, the **satisfying** car, the **lasting car, this** year—especially since you can buy this kind of a car for just a little more money than is asked for the **temporary** car?

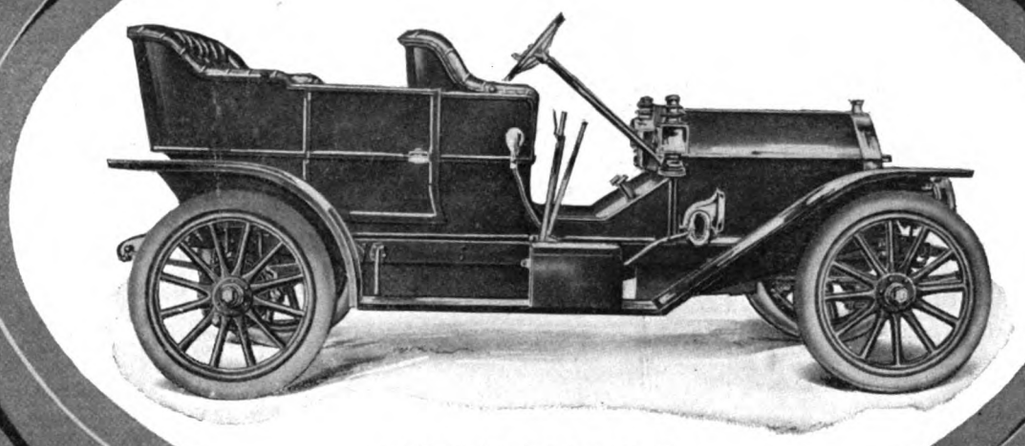
If you want an automobile and do not feel like paying anywhere from twenty-five hundred to five thousand dollars—

Here is a car—the INTER-STATE—that will suit your price requirements and give you the quality you really want.

In style, comfort, speed, ease of control, and low cost of up-keep, the INTER-STATE finds its only competition in the high-grade, high-priced cars, all of which sell for far more money than the INTER-STATE.

The INTER-STATE AUTOMOBILE CO. is a new Company and the INTER-STATE is a new car. But the men behind them—Thomas F. Hart, F. C. Ball, J. M. Maring, G. A. Ball, T. F. Rose, and E. B. Ball—are men who represent millions in capital and an equal wealth of business honor.

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THE INTER-STATE—MODEL 25
$1750.00

They are not the kind of men to trifle with the public or trade by false standards. They have built one of the greatest factories in the world, have installed the most modern machinery that money could buy, and have gathered under their management an ideal organization of automobile brains and skill, for just one purpose—to make this superb car that Claude E. Cox has designed, the INTER-STATE.

Why have they done this? Because they realized that the INTER-STATE would occupy a field absolutely distinct from that occupied by any other car, namely, **the highest type of an automobile from every point, at a low price.**

This is the car that we want you to see. We want you to drive it, and give it every possible test, before you **think** of spending your money for a cheaper car—or for even a higher-priced car. We will be content to accept your judgment as to its value at $1750.00.

It will be exhibited at Grand Central Palace, New York, December 31st to January 7th, and at the Coliseum, Chicago, February 6th to 13th.

Dealers and agents will quickly appreciate the opportunities open to them by the INTER-STATE. Our proposition is unusually attractive.

Write

D. W. HENRY, Sales Manager

Inter-State Automobile Co., 126 Willard Street, Muncie, Ind.

Specifications

FRAME—Pressed from cold rolled steel, special stock.
FRONT AXLE—"I" beam, drop forged in one piece—not welded—and double heat treated.
REAR AXLE—The reliable semi-floating type with large axle shafts and Hyatt Roller Bearings.
WHEELS—Artillery type, 12 spokes, 1½", 34" diameter.
TIRES—Standard Goodyear Quick Detachable, Continental or Diamond. 34x4".
BRAKES—Four 12" brakes all acting on rear hubs external and internal.
TRANSMISSION—Three speed selective type and reverse with vanadium steel gears. The selective mechanism built inside transmission case, thoroughly lubricated at all times.
HORSE POWER—34-40.
GEAR RATIO—3½ to 1, giving from 5 to 60 miles on high gear.
MOTOR—Four cylinder, 4¼x5, water cooled, cylinders cast in pairs.
CRANK SHAFT—Special drop forging, 35 to 40 carbon steel, double heat treated.
IGNITION—Double system Eisman Magneto, commutator, battery and quadruple coil.
BODY STYLES—Touring Car, Roadster, Tourabout and Demi-Tonneau.
WHEEL BASE—112"; TREAD—56½".
COLOR—Standard Inter-State red.
PRICE—With best of equipments, head lights and generator, side oil lamps, tail lamp, tube horn, tire repair kit and tools, Eisman magneto, F. O. B. Muncie, $1750.

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MILITARY VALUE OF AUTOMOBILES

French War Official Declares Motor Vehicles Necessary in Army Operations—Adaptable Types Specified.

From the clumsy, armored motor vehicles destined to act as miniature moving batteries down to the ordinary pleasure car adapted to despatch duty, the war departments of Continental Europe have given the automobile a most thorough test during the past four or five years, as a result of which its status has been pretty clearly established and classified. In America the present impression among military authorities is that the sphere of the motor vehicle is more or less limited by its necessary confinement to roads of at least passable condition, as a result of which its usefulness must be confined to such movements as attend the mobilization of considerable numbers of troops, where there is opportunity to improve existing roads or to construct new ones where that may be necessary. Somewhat in the same line is the opinion of General Langlois, the French ètat-major, who has recently published two articles on the subject in the Temps of Paris.

"The most prominent of the applications of the motor vehicle in time of war," he concludes, "is for the organization of the service for the convoys of provisions. The growth of self-propelled traffic for private industries and the reduction in horse-drawn vehicles causes very urgent and special attention to be directed to this question of convoys, which no longer presents itself at the present day under the same conditions that were prevalent only ten years ago. It is further complicated by the enormous growth in the munitions and stores, which the conduct of modern warfare now entails. In these circumstances it is clearly established that both the railways and the horsed vehicles combined would be absolutely inadequate to provide for the provisioning and supply of stores needed by an army of the present day in the requisite time.

"It must be remembered that with an automotor it is possible to convey five times the weight that can be moved by means of horsed baggage carts (4,000 kilograms in lieu of 800), moreover the distance traversed by the motor each day is four times as great as that which can be covered by horses—namely, 120 kilometers in place of 30. From this it appears that by means of mechanical agency it becomes possible to accomplish twenty times the amount of work performed by animal traction. The length of the train of convoys is thus greatly reduced, the number of vehicles and of persons in charge is diminished, and the re-victualing is done with much greater rapidity. The experience gained in the course of the grand manoeuvres and the recent competitions for weight-carrying motors render it possible to formulate the conditions with which vehicles of this description employed for the victualing of an army must comply.

"Three different descriptions of motors are available and have been tried:

"1. Tractors. In this case a single motor-truck draws one or more trailers after it. The tractor alone provides for the requisite adhesion to the ground in order to propel the trailers attached to it. From this it results that it must be a very heavy vehicle, rapidly wearing on the roads, more especially at parts where there is a curve. This class of motor does not therefore find favor.

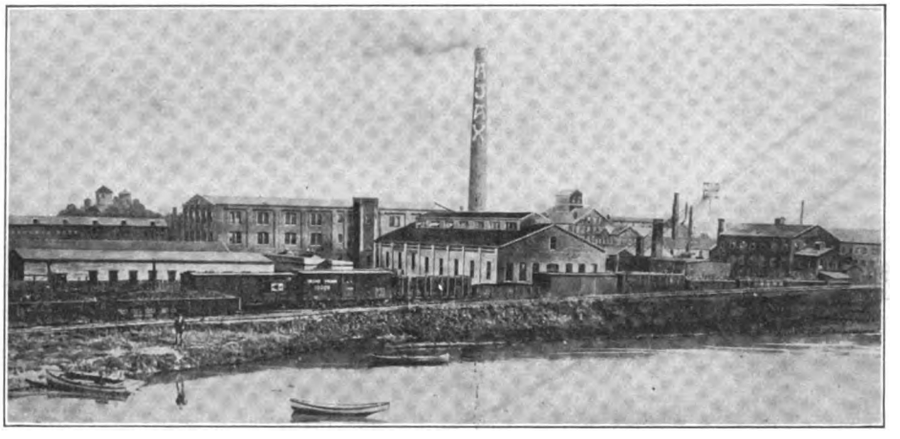
"2. Renard trains. The motive power produced in the leading car is mechanically transmitted to each of the trailers, which contributes therefore to the adhesion. The returns from this class of vehicle are high, the roads are not severely damaged, and there is little risk of wear and tear. This is, therefore, an excellent system for military convoy purposes; the only drawback is that it is impossible to divide up the train into units.

"3. Motor wagons. The vehicles tested were those of the usual commercial type; they gave very favorable results and proved themselves to be well adapted for army transport purposes. The trials showed that it is possible to arrange for weights up to eight tons without injury to the roads, the usual load carried being four tons. It appears, however, advisable to introduce the following improvements: The use of a more simple and stoutly constructed motor engine, automatic carburation, and arrangements for facilitating the adoption of various kinds of fuel. The starting gear should be automatic.

"In order to obtain the best results it was ascertained that the speed should be moderate, not exceeding 12 or 15 kilometers per hour; there is otherwise a risk of damage both to roads and vehicles.

"As it would obviously be impossible to create a special equipment of automobiles for army transport purposes, since it is not improbable that such stock would have become antiquated before the time for the use of it arose, it appears necessary to rely upon private motors, which during war time could be impressed for military service. In order to stimulate progress in mechanical systems of locomotion and to render these systems adequate to provide such assistance to the military authorities as they may require when occasion arises."

General Langlois calls on the Minister of War to give a vigorous impulse to this branch of industry by the offer of adequate rewards in the shape of premiums. He insists, also, on the need of further experiments respecting the employment of alcohol for internal combustion engines, since the supply of petrol, as it is an imported article, might suddenly be cut off in time of war. The general likewise discusses another military use for motor vehicles, at present employed for commercial purposes, namely, in order to convey rapidly from one point to another of the battlefield large bodies of troops. It might be possible by this means to render important service to a commander by increasing to a very remarkable extent the mobility of his forces, he suggests.



AJAX-GRIEB FACTORY, TRENTON, N. J.

Ajax-Grieb's Enlarged Factory.

Though but two years old, the Ajax-Grieb Rubber Co. has risen to a position of some little prominence in the industry as a result of which it assumed the dignity of a new and enlarged factory in Trenton, N. J., early in the summer, which has been completed but a short time. As the picture shows, it is conveniently located with regard to transportation and the other necessary manufacturing facilities and is of ample floor area to take care of an enormous amount of business. Formed in 1906 by a number of automobile manufacturers, among whom the Ford Motor Co. and the Maxwell-Briscoe Motor Co., were most prominently associated, its growth has been gradual but insistant. Among its most boasted recent achievements was the signing of a contract for delivery of no less than 29,000 complete tires—said to be the largest single tire order ever given to a tire manufacturer.

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SLUGGING SPICES TAXICAB STRIKE

Odd Features of Drivers' Merry War on Strike Breakers—Photo of a Feast Serves as a Detective.

Jolting along in a jinricksha on Broadway, a timid lady of the stage announced to her friends that she was forced to that means of conveyance by the taxicab strike which was raging in New York City. Of course it was purely a press agent's "plant," the papers all being provided with photographs and interviews, but it made a hit because of the news prominence the strike was attracting, both on account of the inconvenience it entailed on the public and because of the incidents of violence attending it. The public history of the difficulty and of the events attending it has been spread large, but there is a wealth of "inside" history which has not been disclosed, particularly as to the manner in which the strike was broken and the acts of violence of the strikers discouraged.

Officially the period of the strike against the New York Taxicab Co. by the drivers of the machines, was from October 3 to November 13, though in reality it tapered outside these dates. Dynamite bombs, murders, incendiary fires, riots, black-jacking and other equally mild measures of suasion were used by the strikers to bring the company to their views, and the newspapers were kept busy telling how cabs were being wrecked or taken from their drivers and stolen, while unfortunate strike-breakers were being slugged or assassinated.

Strangely enough little publicity leaked out as to some of the things which happened to the strikers themselves and their sympathizers. Nevertheless a census of the broken heads and pounded bodies which they had occasion to go home and nurse would probably make the record of injuries to strike-breaking drivers look modest and trifling by comparison. A more quiet and efficient warfare against strike violence could hardly be conceived, and warfare it really was in the literal sense of fight and battle.

When things began to get warm for the Taxicab company, an experienced strike-breaker was engaged, who in addition to knowing where to get men capable of running the cabs was likewise able to organize a gang of "sluggers" and fighting men of the kind who relish a bloody "scrap" more than a wildcat does raw meat, and who regard being paid to fight as the softest "graft" possible, except that it imposes limitations as to whom and under what circumstances they may let loose, thus calling for some restraint. Not bound by any sympathies with the strikers or their friends, they found rich material to work on. If there were "huskies" and "scrappers" among the strike crowds, the experienced and eager Taxicab "sluggers" were aching to "eat 'em up," and the quickness and dispatch with which they did so when they got a chance was marvelous to behold. Furthermore, as if to add insult to injury, after pounding a strike rioter to within an inch of his life, the Taxicab men would in many cases drag their prey to police headquarters and have him arrested.

While the police department was in duty bound to afford the Taxicab company some measure of protection against the attacks of the strikers, the approach of the November election was observed to have a visible effect in relaxing the police activity against them, due in some degree to the fact that the strikers were backed by the Liberty Dawn Association and its friends. Through the mysterious intricacies of politics many of the police department officials were impressed with the desirability of not being too hard on the "boys" who were "doing things" to the cab company and its employes. Police Commissioner Bingham had to discipline several desk officers for not providing men where obviously they were needed, so that the cab company was in a large part thrown on its own resources and found its fighting force a very real necessity.

The Liberty Dawn Association, be it known, is an organization of horse-cab drivers, formed to insure a favorable arrangement with the Livery Stable Keepers' Association from whom the cabs are hired. The members are chiefly the typical New York "cabbies," many of whom have both a strong arm and a strong pull. When the New York Taxicab Co. began to get large numbers of its machines on the streets, the drivers' ranks were extensively recruited from the Liberty Dawners, it being thought that the knowledge which the experienced cabmen had of New York's topography and the like, would be valuable in the new service. The Taxicab company instituted a school of instruction for them, and before long there were many ex-reinholders at the steering wheel. When their number grew proportionately large, they began to figure about applying such Liberty Dawn methods to the Taxicab company as had been successful with the livery keepers, and they commenced steps to that end.

When the Taxicab company saw the trend of things, it hastened to counteract the tendency by suggesting to the men the formation of a taxicab drivers' association, quite independent of the Liberty Dawn Association or any other established organization. To lead the new movement some of the oldest and most loyal of the company's drivers were picked out. As a step in expediting the plan, a dinner to the drivers was programmed, based on the first anniversary of the company's business, or something of the kind, and all the drivers who could be spared were invited to attend. At this affair gold watches and congratulations were expended on those of the drivers who had been with the company practically from the start and who were not Liberty Dawners. Among the felicities of the occasion was the taking of a large flashlight photograph of all the diners at the banquet, which played an important part in a subsequent chapter.

Meanwhile the Liberty Dawn movement was coming to a rapid head, hastened by the fact that while the drivers who had been with the company for some time were making "easy money" on the commission basis, sometimes estimated as high as $50 or $60 per week on the best paying stands, the newcomers were scratching out barely enough to live on, through being placed only as substitutes in the absence of regular drivers or because of having to take the stands where the calls were few and far between, and the tips the poorest. The effect of this difference in earnings was to divide the sentiment about equally when it came to a proposition of demanding a straight wage rate of $2.50 per day instead of the commission compensation of 20 per cent. of the earnings, less the cost of fuel, oil and uniforms. When at one of the drivers' meetings a vote was taken whether to strike if the company would not sanction the change, the ballots for and against were about equal, due to the fact that the number above and below this figure in earnings were in balance.

Because of he company's apparent hostility to any organization other than one fathered by itself, however, many of the drivers, particularly those whose earnings were average or indifferent, leaned toward the new movement, and when recognition was denied the Liberty Dawn crowd as a union thy joined the strike.

Immediately the men walked out, the company's troubles began. The men who stuck were attacked with bricks and clubs when they appeared on the streets with the red "taxi-s." As the fight grew more protracted and bitter, the methods employed by the strikers became more and more dangerous. Taxicabs were engaged to take prosperous looking passengers to uptown streets in lonely districts, where the driver would suddenly be set upon by an organized gang and the cab destroyed. The passenger, in such instances, was simply a strikers' decoy. A fashionably dressed woman after engaging a cab for a short trip, would dismiss it, and shortly afterward the vehicle would either blow up from some explosive left in it or would be found to be burning vigorously inside, the lady having prepared a neat little package of inflammability, which she set going when he got out.

To intimidate the public and to make the hotels "shoo" the cabs away from their regular stands, carefully aimed rocks and brickbats just missed the vehicles and went crashing through the large plate glass windows of the ground floor restaurants of the hostelries, scaring the guests and creating great alarm generally. Most of the hotels, however, were willing to see the company through the difficulty, and only a few

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took steps to have the cabs kept away while the strike was on.

Among the more prominent incidents was the waylaying of a driver by a gang which beat him up and then ran the cab through a cross street to the river, where it was driven over the dock into the water. It has not heretofore been disclosed, however, that instead of the gang then following the ambulance containing the driver to the very gates of Bellevue hospital and threatening him further, its members found themselves busy "mixing things" with a squad from the Taxicab office, who, after laying most of them out on the pavement with various accumulations of closed eyes, unattached teeth and fractured skulls, rescued the cab from its watery berth and hauled it back in triumph.

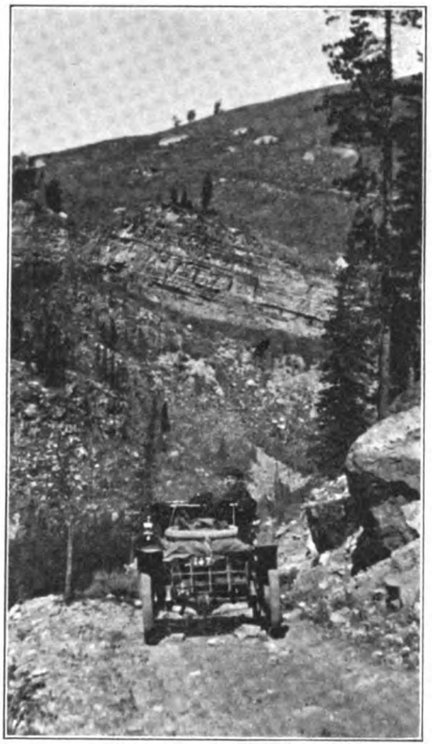
If the strikers could use the "glad rag front" as a decoy, so could the company, and on several occasions a lone chauffeur of a red "taxi" conveying two or three apparently innocuous youths in evening clothes, upon being attacked would have the pleasure of seeing his passengers jump out and "clean up" the attacking party, slamming them right and left and only stopping short of murder. If any of the attackers had a kick left in him after the melee, he was turned over to the police, while the rest were left for the hospital corps.

Old drivers, who staid with the company when the strike was declared, were in many cases able to name the leaders in the gangs that set upon them, but the new recruits did not know the strikers by name. Then the photograph—the flashlight of the harmony banquet—was brought out, and from the array of faces at the festal board the strike rioters were frequently identified. They were given a few friendly attentions by detachments from the Taxicab camp, when favorable opportunity presented.

But the enthusiasm of the company's corps of riot pacificators, so steadily thinned the ranks of the strikers able to report for participation in the attacks, that these events grew less and less frequent although their character did not diminish in vigor or ingenuity until the very end. After a few truces and several endings of the strike, following which trouble broke out anew, the fight gradually languished on the part of the aggressors, until it became quite safe either to hire or drive one of the little red cabs. The public impression was that the violent methods of the strikers had been met by the company in a spirit of calm and law-abiding defense, depending upon the established machinery of peace and order. As a matter of fact the company fought fire with fire, and looked to the police for no more than it could get. If broken ribs and broken heads could weaken the strike-breakers they were equally valuable in weakening the strikers, and New York City was consequently made the battle ground for a reciprocal warfare in which the "scrapper" could indulge himself to his heart's content, no matter with which side he cast his fortunes. Now that it is over, many of the "regulars" that were under the Taxicab banner will have to do their fighting simply as a diversion, without pay, while the "volunteers" of the Liberty Dawn camp are already used to fighting without pay, anyway, and enjoy it.

Where Snow Forbids Motoring.

While modern motor cars are capable of getting almost anywhere and can overcome nearly every sort of road condition good or bad, plow through hub-deep mud or heavy sand and surmount the steepest hills, never-



theless one condition frequently proves an insurmountable stumbling block to its progress, and that is snow, driven and drifted. This was proved to the satisfaction, or rather, dissatisfaction of Dr. O. T. Parker and several of his friends recently when they undertook the passage of Eagle Canon, Colorado, in the course of a hunting trip.

The party which set out through the mountains in a Franklin car, encountered some terribly bad roads and awful ascents, as may be judged from the accompanying picture, showing the car in the act of descending into the canon itself. The ground was covered most successfully until snow began to fall in the canon. When it snows in that part of the country it snows well and the storm soon piled up the drifts so high that it was impossible for the car to proceed. To save their lives the half frozen party had to abandon the car and their entire camping equipment, together with their guns and 18 deer that had been bagged, and make their way out on foot. After finding shelter some miles distant, they were obliged to wait ten days before it was possible to set out with a rescuing party to release the car and its load.

Planning Law to Check "Borrowing" Cars.

Minneapolis, Minn., is having trouble with motor car "jokers" and has been moved to the point where it has seen fit to draw up a bill to be introduced in the State legislature. Of late, numerous motor car owners, leaving their machines standing at a curb, have had their property "borrowed" without permission being granted for the loan. The borrowers in most cases have not been regular thieves, but mere sportively inclined young persons desiring to play a prank. Some of them have carried their jokes too far, however—far enough outside the city limits to spoil the owners' sense of humor. One bright youth recently made off with an expensive touring car and then stranded it on a country road, where it was found damaged to the extent of nearly $1,000.

It seems that there is neither a city ordinance in Minneapolis, nor Minnesota State law covering this particular offense. In cases where arrests have been made, judges have ruled that no theft was intended and that it was just a joyous "lark." The members of the Minnesota State Automobile Association declare that if they cannot get a State law, they will have the city council act.

Vincennes Automobilists Form a Club.

After a few preliminary meetings the Vincennes Automobile Club has been formed in Vincennes, Ind., its expressed purposes including a furtherance of the good road movement and the suppressing of the "inconsiderate" driver. The following officer was elected: R. W. Gibson, president; H. T. Johnson, secretary; W. C. Bierhaus, treasurer; Perry Tindolph, first vice-president; G. A. Pielemeier, second vice-president; Dr. C. W. Denham, A. M. Shepard and Bert C. Fuller, directors.

Big Registration in Ohio.

In the November report filed with Secretary of State Thompson, Fred C. Staley, Ohio registrar of automobiles, shows that since the motor vehicle law became effective in that State on June 10, 1908, the total revenues for registration tags up to the end of the fiscal year, November 15, amounts to $56,102 . The receipts for the month of October and the first fifteen days of November came to $1,677.50.

Motor Car Touring Society Election.

An election of officers of the Motor Car Touring Society, the New York amateur club, took place on Wednesday, 2d inst., and the following officers were chosen for the ensuing year: President, Albert Eugene Gallatin; second vice-president, Percy R. Pyne, 2d; secretary and treasurer, Orme Wilson, Jr. These, with Marshall Kernochan and Stuyvesant Fish, Jr., will form the governing committee.

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DIFFICULTIES OF MOTOR RATING

Foreign Experts Involved in Discussion of Determining Factors—Ratio of Dimensions an Elusive Quantity.

As a result of the appointment of a commission to investigate and report upon the subject of horsepower rating for motor vehicles, as recently told in these columns, members of the British Society of Motor Manufacturers and Traders, the Royal Automobile Club and the Institute of Automobile Engineers, which form that body have been plunged into a depth of technical discussion more searching than ever the subject has been granted before, and one which promises much entertainment for those who are able to follow at all closely the finer points of theory which must be taken into account. Up to this time the deliberations of the commission have gone no further than a discussion of the present R. A. C. formula and the proposed formula of the S. M. M. T., an explanation of which appeared in the Motor World's issue of September 17th.

In a word, the latter expression is calculated to take into account variations in the probable power of motors due to the ratio of bore to stroke and also to the variations in stroke when the bore is constant—both of which factors are unaccounted for in the common formula which is known in this country as the accepted rating of the Association of Licensed Automobile Manufaturers. The proposed S. M. M. T. formula is:

$$\text{horsepower} = k \times d\,(d-1)\,(r+2)\,n$$

where k is a constant, depending on the type of motor under discussion and is given the value of 0.197 for touring cars, and 0.333 for racing cars. The terms d, r, and n, are, respectively, the diameter of the cylinders, the ratio of stroke to bore, and the number of cylinders employed.

In the criticism of this offered by G. H. Baillie at one of the meetings of the commission it was pointed out that the desirable formula should serve at least two ideal purposes: (1) "To enable anyone to ascertain the horsepower of an ordinary car engine from its dimensions," that is to say, to serve the purposes of a "nominal horsepower formula"; and (2) "to afford a basis upon which engines can enter for competitions," thus making a "competition horsepower formula."

"A nominal horsepower formula," he said, "has merely to take into account what is done with an engine in current practice, while a competition horsepower formula has to take into account what can be done with an engine if it be built specially to suit the formula.

"In an engine for touring cars merit is not measured by horsepower alone. Consequently it does not matter what dimensions are used in the formula, whether bore or stroke or cylinder capacity, or any of them to any power, so long as the formula does give the horsepower with fair accuracy in most cases.

"On the other hand, in competitions such as races or hill climbs, horsepower may for present purposes be said to be the one and only thing to be considered. Engines built with this end in view are liable to become 'freak' engines, and it seems to be the general opinion that a competition horsepower formula should not encourage freak designs. . . . .

"There has been apparently much difference of opinion between really competent people on the question of formulæ, but I believe that most of what seems to be difference of opinion is really difference of definition. I will, therefore, baptize the different kinds of formulæ I shall speak about to ensure the same thing being called by the same name in this discussion.

"Horsepower Formula—A formula of any kind which purports to give the horsepower, either indicated or brake, either maximum or at any particular speed, of a petrol engine.

"Nominal Horsepower Formula—A formula which purports to give the maximum brake horsepower of a petrol engine from any data which are easily ascertainable without testing the engine.

"Competition Horsepower Formula—A nominal horsepower formula with such data as to discourage freak designs as far as our present knowledge goes.

"As an example of the requirements of the two kinds of formulæ, the nominal horsepower formula and the competition horsepower formula, I will take the factor of stroke, as this is the main bone of contention in all formulæ discussions. It is the omission of stroke that has brought so much abuse on the D^2n formula, and it is stroke which is the new factor introduced into the proposed S. M. M. T. formula.

"There is, of course, no question that the horsepower of an engine can be greatly increased by increasing the stroke or the ratio of stroke to bore, and a competition horsepower formula must therefore take this factor into account. So much for the effect that increase of stroke can have. Now the question is, what effect does it have in actual practice in touring car engines?

"The evidence I have been able to collect shows that the horsepower does not increase with increase of the ratio, but rather tends to decrease. And, in fact, it is not difficult to see the reason why the horsepower does not increase. The evidence I refer to is the exhaustive series of tests made by the Automobile Club of France on the maximum horsepower of 96 engines in November, 1906. I referred to these tests in a paper I read before the R. A. C. early this year, and showed curves between the horsepower and the ratio of stroke to bore for all these engines. Those curves show that, with very few exceptions, the horsepower increases as the ratio decreases. At any rate, down to a ratio of 1 or 0.9.

"In default of any later evidence of actual practice, I think it may be concluded that for ordinary touring car engines a nominal horsepower formula is more accurate if the ratio of stroke to bore be omitted. At the same time it is even more certain that in a competition horsepower formula it should be included, and, I think, given more weight than in the proposed S. M. M. T. formula.

"The S. M. M. T. report gives the list of factors which a 'completely satisfactory formula' should take into account. These are:

"(1) The effect of multiplying the cylinders.

"(2) The effect of size of cylinder upon the 'mean pressure equivalents to the brake horsepower.'

"(3) The dependence of the maximum piston speed practically attainable upon the ratio of stroke to bore.

"(4) The effect on mean pressure of varying compression ratio.

"(5) The effect on mean pressure and engine speed of the nature and mode of ignition adopted.

"It seems to me that this by no means completes the list for so high an ideal as a 'completely satisfactory formula.' . . . . Other factors which have a material effect on the horsepower are, for instance, the size of the valves, the steepness of the cams, the weight of the reciprocating parts, the size and shape of the induction and exhaust pipes.

"It is, though, obviously impossible to include all the factors, or even the important ones, in one formula, or, indeed, to ascertain them, and it seems, therefore, impossible to obtain a completely satisfactory competition horsepower formula, or anything like it.

"In considering a nominal horsepower formula for touring cars, the case is entirely different. The basis of such a formula is not what can be done with an engine, but what is done. The discovery of the best formula presents no difficulty; it only requires that British makers in 1909 should afford the same facilities as were willingly afforded by the French manufacturers in 1906. Curves can be drawn representing the average variation of horsepower with these factors, and a formula can then be obtained which fits the curves as closely as may be desired.

"One factor to which a large portion of the S. M. M. T. report is devoted is the variation of piston speed for maximum horsepower with r, the ratio of stroke to bore, and an equation representing this formula is deduced from theoretical considerations, and subsequently serves as basis or part basis for the proposed formula. The figures obtained by the French Club enable this equation to be checked, and show that piston speed does not vary with r according to any really regular law. What little regularity there is shows a variation in the

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opposite sense to the theoretical variation given by the equation. . . . .

"The horsepowers adjusted according to the S. M. M. T. proposed formula vary far more than when not adjusted for the ratio, and the formula curve does not represent them particularly well. The average percentage error of 61 engines between bores of 80 and 130 mm. is with the proposed S. M. M. T. formula 13.1 per cent., while with the formula with bore only, the average error is only 10.3 per cent. The presence of the (r + 2) term in the proposed formula of the S. M. M. T. is chiefly responsible for its greatest errors.

"This is sufficient to show that, given the experimental data, it is easy to deduce a simple horsepower formula giving the horsepower of touring car engines, and if only people would come forward to facilitate the work of collecting the data we should require no more discussions or theories, but should have a formula that was without question the best possible at that time."

Baillie concludes with this suggestion to the commission: "That a small committee, independent of all trade influences, such as could be formed from the Technical Committee of the R. A. C., should prescribe conditions for testing the normal maximum horsepower of an engine, and that the different makers should supply the results of their tests on new types or sizes of engines put on the market. The results would have to be treated as confidential by the committee, otherwise it might be difficult to ensure getting the figures of normal engines. The committee might then, at the beginning of each year, issue a nominal horsepower formula, based on these results.

"For competitions it is impossible to devise a 'completely satisfactory formula,' on the lines indicated in the S. M. M. T. report, and I think that if any formula be advised for competitions, it should be put forward with a clear statement of the limitations it must necessarily have. After all, the excellence of a formula for competitions should be judged not for its scientific correctness, or, indeed, by the accuracy with which it gives horsepower, but only by the degree of interest and usefulness it lends to the competitions."

Mervyn O'Gorman, whose prestige in British motoring circles is unquestioned is able to discern no less than four distinct purposes for the ideal formula, thereby adding more to the uses of the much desired expression.

The first of these is the "Olympia formula," which he described as a "wrinkle or 'tip' for a layman. It may be called a rating, omitting the word horsepower altogether," he thinks. Second, there is the requirement of the engineer of an accurate method of power determination, which is satisfied by the familiar "P. L. A. N." expression which is common to all types of engine. For competition two sorts of formula are required—one for such competitions as are organized on short notice and among entrants driving cars already constructed and of known characteristics—such for instance, as the stock car events carried out by individual clubs—and another for competitions requiring a carefully safe-guarded formula.

After proving by the aid of diagrams that the errors introduced by the "d-square" method of rating employed by the automobile club, when applied to engines of 1906 and 1907 construction were less "than the irregularity introduced by the various arrangements of inlet pipes, valves and carburetters," he suggests that in view of the apparent futility of attempting to arrive at a satisfactory basis of general rating, it would be better for a year or two to print and circulate a set of tables and curves for the purpose of ready calculation of the absolute power of each and every motor considered.

For competitions, he points out that there is no real need for an even approximate determination of the horsepower; all that is required being to provide a common method of handicapping. In fact, he even expresses the opinion that if the seal of approval were placed upon any single formula for competition, a source of much valuable information would be lost in the case of hill-climbing contests, for example, where conditions vary to such a degree that the rating of the power of the machine alone, can be of but small relative value.

The report of the rating committee of the Institute of Automobile Engineers upon the subject proved to be hardly more encouraging as regards the probable acceptance of the proposed formula or indeed, an early settlement of the rating question on this or any other basis. The chief point of criticism against the S. M. M. T. report was that the tests quoted were insufficient to warrant the assumptions made in the formula, it even being shown that in some instances the results given by the tests actually appeared to go contrary to the theories upon which the formula was based. The most salient proposal of the report is that a special committee be formed to discuss the exact nature of the tests to be made in order to supply data for accurate comparison by formula.

New Rectifier for Alternating Current.

A new form of alternating current rectifier has recently been brought out, according to the Scientific American, which is wholy mechanical in its operation. It consists of a cylinder of insulating material, provided with a pair of metallic contact points. Mounted on a ring which surrounds the cylinder are two pairs of contact points and there are in addition four rectifying discs of carbon which with the cylinder are rotated by a motor. By means of a pair of condensers, sparks are made to leap between the points on the rotating cylinder and first one and then the other pair of contact points. The current flows across the gaps between the points and the rectifying discs when the resistance is broken down by the spark, and is conducted to the storage battery intermittently, but always in the same direction. The rings on which the four points are carried may be revolved about its axis, so that the condenser will discharge at any point of the wave, and thus the voltage of the rectified current may be regulated.

Correctness of Odometer Readings.

There is a common belief among motorists that the reading of the odometer attachments to speed indicators, as well as the readings of the speedometers themselves are considerably affected by variations in wheel diameter, such as may arise from altering the brand of tire, assuming or rejecting non-skids, or from variations in inflation pressures. As a matter of fact, however, such differences amount to very little where relatively short distances are considered. Thus a well known maker of speed indicating devices is responsible for the statement that such variations are responsible for inaccuracies of less than 100 feet per mile. Calculation shows that for a difference in diameter of half an inch, the error should amount to not more than 80 feet to the mile for a 34-inch tire, which substantiates the above statement.

Paying for Gasolene with Lead Slugs.

Slot machines for selling gasolene are not as popular as they were with garage proprietors in Chippewa Falls, Wis., because the machines having been yielding fuel in response to lead slugs just as willingly as for good money. Quite a local scandal and sensation has been brought about by the discovery that a well known business man has kept his car supplied all summer by feeding the slot machines with worthless slugs shaped like silver dollars, and the garage people controlling the machines threatened grave legal proceedings unless a settlement were made.

Taximeter Cabs Predominate in London.

First rank has been given to taximeter cabs in London's time honored system of calling vehicles by means of whistles. In the past it has been customary to summon taxicabs by means of three blasts on the whistle, but the machines have gained such a popularity and the whistling for them has become such a nuisance, especially in the quiet streets at night, that the Home Secretary has ruled that hereafter they shall be called by only one blast of the whistle, while two blasts will be for a horse drawn hansom and three will be for a four-wheeler.

Carborundum for Grinding in Valves.

Carborundum is recommended as a substitute for the ordinary grades of emery for use in grinding the valves of the motor. It cuts quickly, leaves no scratches, and produces a surface which in smoothness and uniformity is hard to equal in any other way, it is said.

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CHANGES IN CORBIN 1909 MODELS

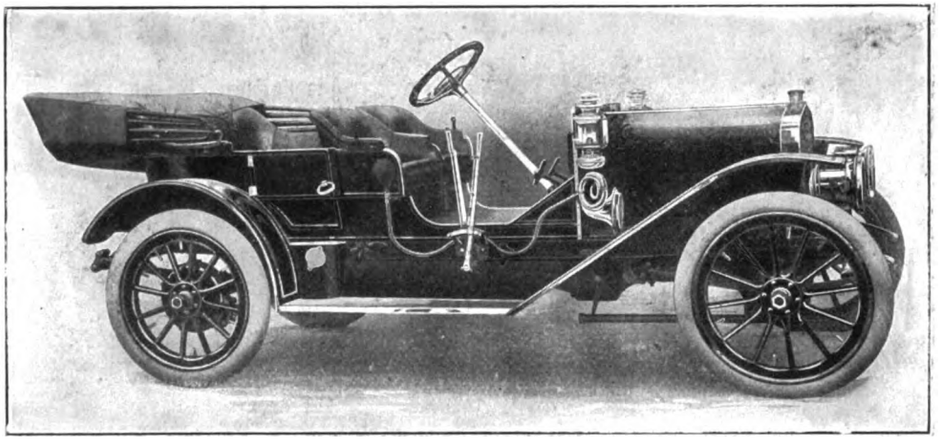
Only Minor Modifications Appear in the Line for Next Season—Various Applications of Body Design.

Specifications of the new models of the Corbin car, just announced by the Corbin Motor Vehicle Corporation, New Britain, Conn., reveal a line comprising various applications of body design in current styles to practically the same chassis construction. This is the same as has been employed during the current year in all salient particulars, but reveals differences in a number of minor points, most of these changes being rather more in the matter of dimension than in any other respect.

A brief review of these alterations shows that the motor is the same as the water-cooled type employed during 1908 except that the cam shaft gears have been given an improved housing and the oiling system also has been improved. In the matter of clutch construction the leather faced type of cone member with sub-facing relieving springs is retained. The clutch shaft and transmission shaft directly behind it are connected by means of an oldham coupling, the joint being enclosed in a dust proof casing, which serves the double purpose of protecting the internal parts from the effects of dust and dirt and also of preventing the central and floating member of the clutch from dropping out in the event of a loss of end adjustment between the two shafts. The leverage for operating the clutch is now so designed that a five-pound pull on the pedal is sufficient for declutching. The same principle applied to the re-design of the companion brake pedal permits the locking of the rear wheels with only a slight pressure upon the pedal. A new type of propeller shaft with fully enclosed joints also has been developed, the construction of the housings over the articulations being such as to protect the enclosed parts from dirt without in the least interfering with their action.

In the design of the front axle a new type of pivot bearing has been adopted, which incorporates very large balls working about a 2-inch circle. The front connecting rod of the steering system is now placed back of the axle, while a new design has also been adopted for the steering rod itself which is made from a single piece of cold drawn seamless steel tubing. In connection with the control of the vehicle, the installation of a new foot accelerator in addition to the hand lever mounted on the steering wheel, will be appreciated by the user. The braking equipment remains the same as before in principle, but the emergency brake drums are now placed inside of the foot brake drums, They are of the double-acting, contracting band type, while the emergency brakes are of the expanding pattern.

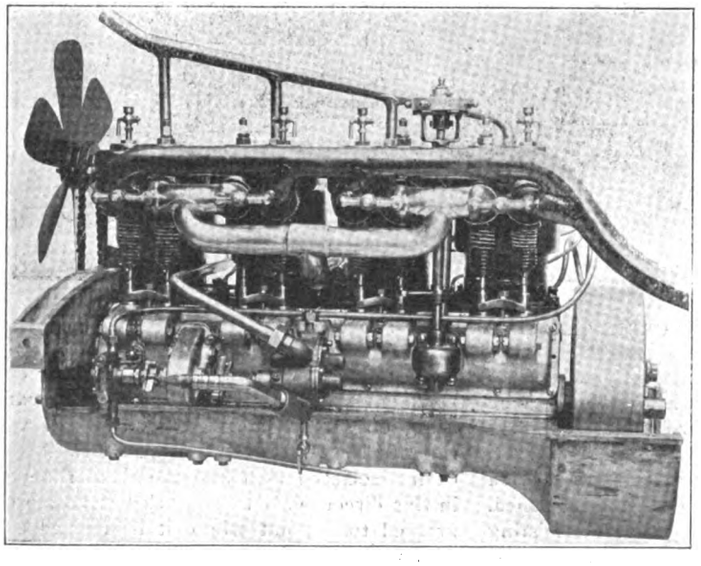
The frame has been reinforced to make it better able to withstand the stresses of heavy road useage. The fenders are similar to those used on the touring car of last year, the edges of the guards being stiffened with drip ribbons. On all models the spaces between the guards and running boards are fully enclosed by a guard fitted over the front spring eye of the rear spring. The radiator now employed affords practically the same cooling effect as the previous form. Though it has a larger area of face, the water capacity has been decreased.



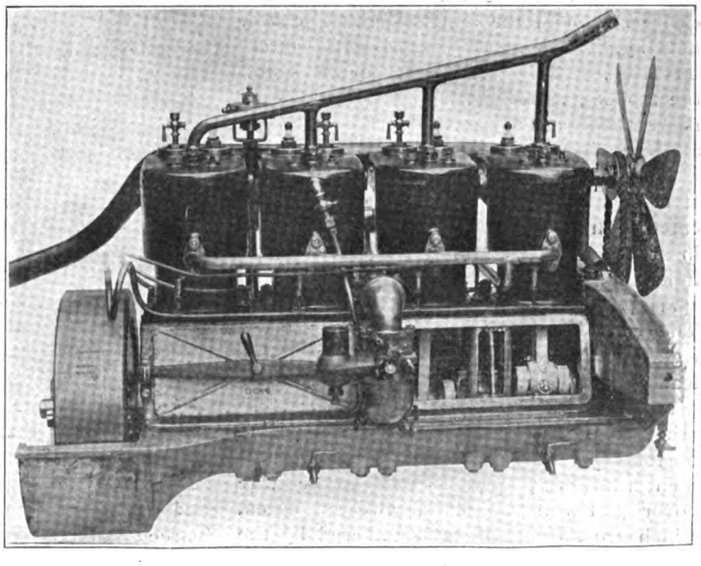
CORBIN BABY TONNEAU, MODEL O²

Body options present three different offerings in the shape of touring car, runabout and baby tonneau designs. The tonneau of the touring body is now made 5 inches wider than heretofore, affording ample room for three persons on the rear seat. The runabout, as formerly, is adaptable to the uses of two, three or four passengers, and is of the same delineation as that used during 1908. The baby tonneau is a light, racy, four passenger car having the same general equipment as the regular touring car.

The general specifications of the chassis call for a quadruple, vertical motor of 30



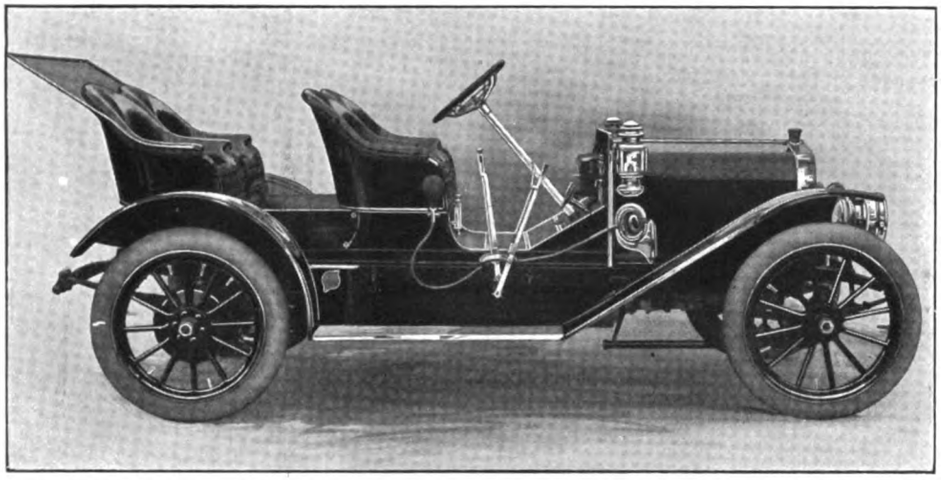
CORBIN MOTOR, LEFT SIDE



CORBIN MOTOR, RIGHT SIDE

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nominal horsepower, having a bore and stroke of 4½ by 4¼ inches. The change gear is of the selective type, affording three forward changes of speed. The rear axle is of the semi-floating type, equipped with spur differential gears. The frame is of pressed steel, channel section, with a pressed steel under-pan supporting motor and transmission. The springs are semi-elliptical, 40 by 2 inches in front and 50 by 2½ inches in the rear. The wheel base is 108 inches and the tread 56 inches.



CORBIN RUNABOUT, MODEL O²

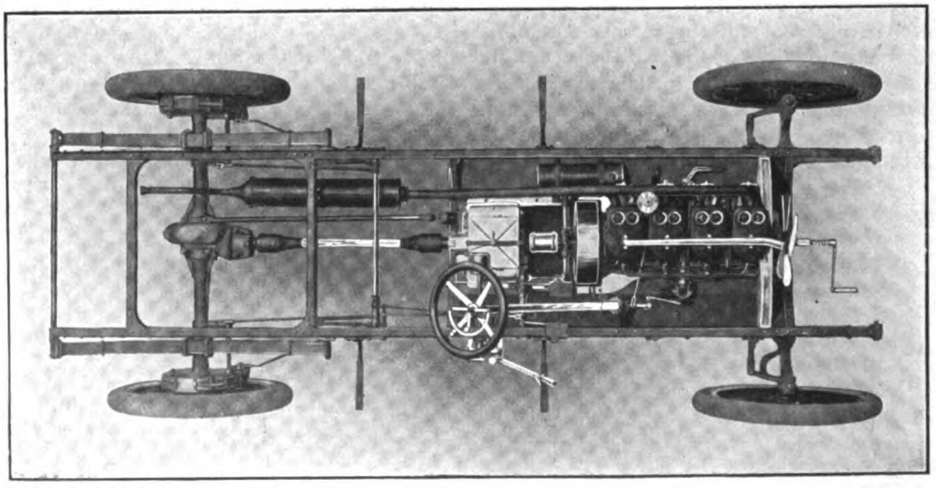
Special points to be noted in the construction of the motor are the neat and clean arrangement of the valves and auxiliaries on the left hand side—the commutator, for instance, being located above the level of the cylinder heads in a perfectly accessible position. The interior of the crank case is readily accessible from the right side through the use of a pair of large cover plates which, instead of being bolted in place, are secured by means of a couple of yokes and tension screws, and are so arranged that the adjustment of the "big ends" may be made without exposing the entire length of the crank shaft. The cam housing, it will be observed, carries intermediate levers between the cam faces and the tappets, whereby the action of the gear is "sweetened" and silenced considerably and the danger of wear not a little reduced.

The copper tube inlet manifold and the steel exhaust connections are purposely located with a good elevation above the base in order to provide ample access to the cylinders for the removal of the valves. The spark plugs are located over the inlet valves. The carburetter, which is located on the right hand side of the motor, with intake lead passing between the two cylinder groups is provided with ample water jacketing area. It is the only auxiliary placed on the right side of the motor, the arrangement affording plenty of room for the large cover plates to the case, already noted, which are absolutely unencumbered by the surrounding mechanism.

Another noteworthy point is in the arrangement of the motor suspension. The lower section of the crank case, which forms the continuous bed for the support of engine and transmission parts, is formed at the forward end with a pair of heavily ribbed cross arms, which extend to the sides of the main frame and afford the front support for the power plant. In the rear it is shaped into a semi-housing for the fly wheel, and is extended rearwardly to join the gear case construction in a rigid connection.

Royal Makes Changes in Models.

Changes over former models of the Royal are being made in the 1909 product, which the Royal Tourist Car Co., of Cleveland, O., designates as the Model "M" and which



CORBIN CHASSIS, VIEWED FROM ABOVE

the reorganized company is planning to have ready in the very near future. The motor is larger than ever before, being 5½ by 6 inches and developing 65 horsepower. A four speed selective transmission is used and the wheel base has been lengthened. Three sets of brakes are equipped, consisting of two sets applied to drums on the rear wheels and a third operating on the drive shaft. As an extra equipment a self-starting device will also be supplied.

Trade Name Restrictions in Hongkong.

Restrictions on trade names are imposed in Hongkong, and the registration of a company title will not be permitted, according to Vice-Consul-General S. J. Fuller, if it include the word "Empire," or "Imperial" in such a way as to convey the impression of government support or connection. "The title would not be allowed," he explains, "in connection with schemes for the acquisition or holding of lands, or exploration of new countries or territories, nor to companies formed for the purpose of supplying articles usually employed or dealt with by the state or by some public authority, e. g., ships of war, armaments, explosives, telegraphs, etc.; nor in the case of schemes to be carried out in India. On the other hand, no objection would be raised to such titles as the 'Imperial Tire and Rubber Company,' 'Imperial Electric Supply Company,' or 'Imperial Auto-Car Manufacturing Company,' unless there was reason to suspect that the company was not intended to carry on a legitimate business."

Maxwell-Briscoe Building an Addition.

Continued expansion of the Maxwell-Briscoe Motor Co.'s Tarrytown (N. Y.) plant has resulted in the erection of a new building, work upon which has already commenced, in which will be housed a fully equipped technical laboratory. While the purpose of the automobile plant is sufficiently exacting to require the services of a well stocked laboratory for the testing of materials of construction alone, the new department will be devoted largely to the carrying out of researches in the use of various fuels. Already the name Maxwell has been associated with numerous experiments in this direction, but the work has now progressed to a point where it is deemed expedient to provide special quarters where the investigations may be carried further.

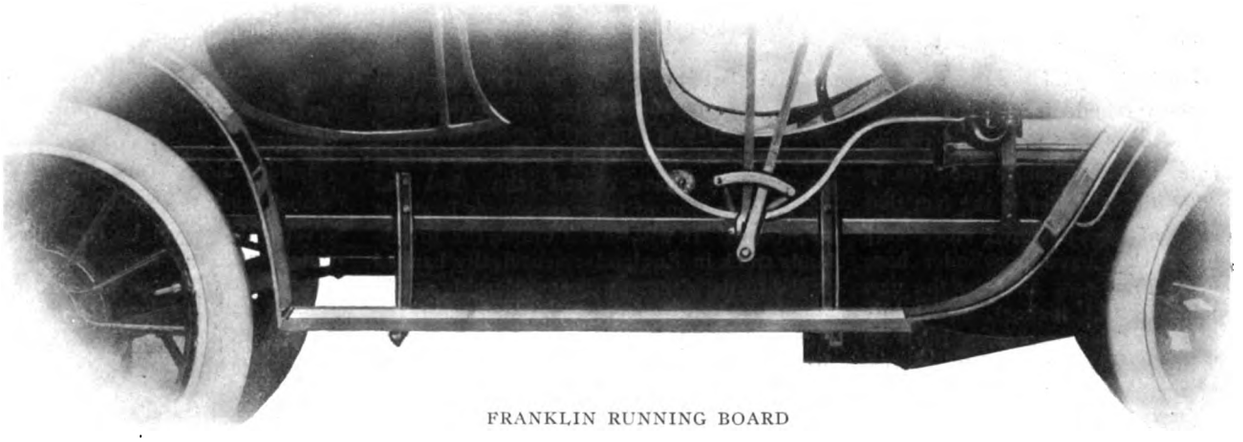
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DEVELOPMENT OF BODY DETAILS

Franklin Improvements in Running Board Shields—New Idea to Facilitate Conveyance of Luggage.

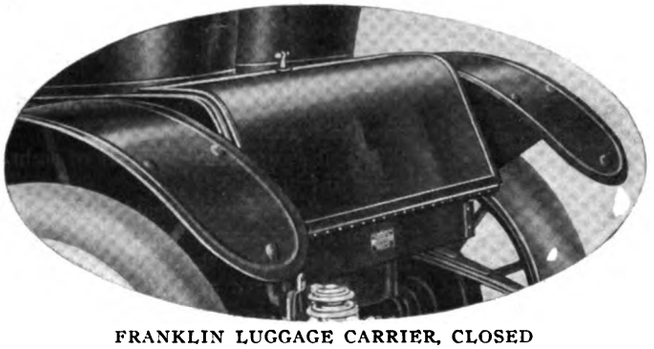
Illustrative of the close attention to detail which the designer of the thoroughly up-to-date motor car is forced to exercise in order to keep abreast of the times, is the development in running board and mud guard construction which has come about within a year or two. Formerly the use of plain guards developed along the familiar lines laid down by carriage builders was considered sufficient. Now, however, the subject is studied with almost as much care and as intimate regard to the treatment of the air-currents beneath and alongside of the machine, as is done in the laying down of the molds for the construction of a ship's hull. Indeed, the methods of treatment must be much the same in the two cases, widely divergent though the actual conditions of use may be.

A case in point is the latest "kink" in the construction of the running board shields which are being fitted to the new Franklin models, one and all. Not content with filling in the space between the frame sills and the board with a dust excluding medium, the H. H. Franklin Mfg. Co. is going a step further in providing against the accumulation of mud and dirt in the angle between the board itself and the shield. The novel feature in its construction is that instead of being closely fastened at the board it turns inward at the base, thereby leaving a small opening. Consequently any dust or dirt which is thrown onto the board from the outside, instead of caking into place and forming an unsightly and even dangerous mass, sifts through between the shield and board and falls back into the road. As a matter of course, the shape of the lower portion of the shield is such as to prevent any objectionable matter from being thrown up and outward from beneath the car. Many otherwise satisfactory running boards have an unpleasant feature of accumulating really astonishing amounts of mud. It is to obviate this drawback that the arrangement which is here illustrated has been conceived and adopted.

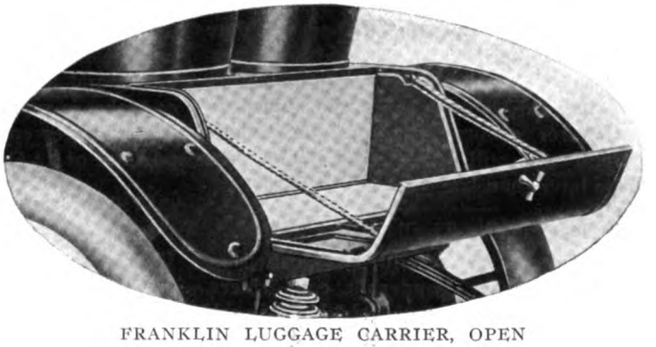


FRANKLIN RUNNING BOARD

Another difficulty which is presenting itself to the designer with increasing insistency is that of providing suitable accommodation for luggage. With the touring car with its more ample lines, this is readily taken care of by the adaptation of some simple form of luggage or trunk rack at the back of the body. With the runabout type of body, however, the problem is less easy to dispose of. In the 1909 model of the 42 horsepower Franklin cars, however it has been taken care readily enough by means of a partially concealed space under the rear seat, the lid of which may be opened out to form a veritable luggage rack, and a surprising amount of luggage, which is thus safely stowed away out of the reach of dust and mud. By opening the lid to its full distance against the chains which hold it, it is transformed into a carrying rack of sufficiently ample proportions to carry several suit cases, or even a small sized trunk, while the up-turned edge of the lid serves a useful purpose as a deflector of dust.



FRANKLIN LUGGAGE CARRIER, CLOSED



FRANKLIN LUGGAGE CARRIER, OPEN

Big Total of One Year's Shipments.

Some idea of the volume of business done by one maker in the course of a season of activity may be gleaned from the statement issued by the H. H. Franklin Mfg. Co., that during the last "trade year" no less than 654 freight cars have been filled with automobiles and shipped from the Syracuse (N. Y.) plant. When it is remembered that this includes the period of curtailment of last fall, it may be imagined what a traditional "banner year" would hold in store for the railroads.

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DISCUSSING BRIARCLIFF PLANS

Promoters Practically Decide on Holding Another Race—Question of What is a Stock Car Puzzles.

Whether or not a stock car race is a contest in which stock cars are eligible as entrants, is a question that is worrying the Automobile Manufacturers Association, the organization that promoted the Briarcliff race in Westchester county last April. At a meeting held December 2, at the Automobile Club of America, it was practically decided to hold another Briarcliff race next spring, but the inability of the members to agree upon the method of engine measurement for the next contest prevented the association from making definite progress in its plans. The difficulty lies in the fact that several makes of high-powered stock cars now on the market have a cylinder bore larger than the limit now fixed by the new international rule (5.1 inches), and oddly enough the association expresses itself as anxious to prevent the possibility of specially built foreign racing cars being brought over here to compete as alleged "stock cars." At the same time, the makers of cars with a large bore do not want to go to the expense of constructing new models to conform to the new rule, contending that a stock car race should be exempt from rating on a cylinder dimensions basis. Manufacturers of smaller stock cars, on the other hand, are anxious to have the bore limit reduced so that they will not be handicapped in this respect. Neither the date nor location for the race have been determined as yet. Indeed, there is no certainty even that the contest will take place in Westchester county although the name Briarcliff will still be retained. The date will be later than last year.

Dingley Supplies Thrills at Bakersfield.

Bert Dingley, who will be recalled as one of the earlier Vanderbilt cup drivers, and who has been distinguishing himself at numerous western meets this season, went down to take a flyer at a tame track meet at Bakersfield, Cal., on Saturday, 29th ult., and had things pretty much his own way, chiefly through the misfortunes of others. The events on the program were scarce and Dingley won what there were, driving a 40 horsepower Chalmers-Detroit "Bluebird." He reeled off the fastest time that had ever been seen on the local half-mile track, making a lap in 0:40 flat, a mile in 1:20, and 5 miles in 6:54 in various trials.

In the 10 miles race, Frank Free, driving a Sunset, gave Dingley a hot tussle, until the third lap, when the Sunset went crashing through the fence. Free was thrown, but neither car nor driver was badly injured. Dingley kept up his hot pace and circled the 20 laps in the brisk time of 14:00½.

Another 10 miles race was started as a handicap affair, Dingley allowing Murray, a San Francisco driver, a full lap. Dingley began to gain on his opponent from the start, when suddenly Murray's Buick crushed its rear wheel in the first mile and left the race to the Chalmers-Detroit.

Los Angeles Plans a Motordrome.

If the plans of a group of western capitalists are prospered Los Angeles, Cal. will have a cement race track for the exclusive use of automobiles. The proposition to lease Ascot Park for a term of 14 years, has been under consideration for some time and on the first of the month a certified check was posted with the directors of the jockey club that formerly operated Ascot as a horse race track. This deposit is said practically to have closed the deal and the construction of the new course is about to proceed. It will be not unlike the Brooklands track in England, scientifically banked at the turns, although of considerably smaller dimensions. Several members of the Automobile Dealers Association of Southern California will be the directors of the new enterprise and all races held on the course will be under the auspices of this body.

Florida Has the Sandfest Fever Again.

Annual efforts looking toward the promotion of a sandfest on the Ormond-Daytona course are again in evidence, a late date in the latter part of March having been tentatively advanced in a cautious way as being most suitable for various reasons. The Florida East Coast Automobile Association, with headquarters at the Daytona end of the beach and ample local real estate interests at stake, is reputed to be anxious to secure the management of the proposed event in advance of its Ormond neighbor.

Wilkes-Barre Booming Its Hill Climb.

With the hope of definitely making the Wilkes-Barre (Pa.) hill climb the international hill climb of next year and ensuing years for some time to come, G. N. Lee, president of the Wilkes-Barre Automobile Club has been in New York City this week arranging the preliminary details of the contest, and incidentally courting the patronage of the Automobile Club of America for the event. It is announced that the contest will be held on May 31 next, and not May 29, as first planned.

Milwaukee Club Plans for New Home.

At a recent meeting of the Milwaukee Automobile Club, Clarke S. Drake was elected president; W. L. Hibbard, first vice-president, and F. Printz second vice-president. It was decided by the members present to begin the erection of a new club house in the near future and a committee was appointed to inspect various proposed sites with that object in view.

TO KEEP DOWN PERFECT SCORES

Worcester's Endurance Contest to be Run Under Exacting Conditions—Five Blind Trips on the Schedule.

One of the most exacting short distance endurance contests ever planned will take place on Saturday next, 12th inst., when the Worcester (Mass.) Automobile Club holds its 200 miles reliability run. Things are not to be handled in slip-shod fashion by any means and the committee in charge of the contest has inaugurated a novel feature or two in its system of determining penalizations, which are well calculated to keep down the number of "perfect score" contestants.

Besides being run under the regular "sealed bonnet" conditions, with official observers, there will be two examinations of contestants, one before and one after the run, at which times minute measurements of parts will be taken to note any change in alignment, the amount of dish in front and rear wheels, and the "set" of the springs. Each of these examinations will cover the following measurements:

Distance between felloes of front wheels and ground.

Distance between felloes of rear wheels and ground.

Distance between center of right front and right rear wheels at center of hub caps.

Distance between center of left front and left rear wheels at center of hub cap.

Vertical distance from center of right front spring to frame.

Vertical distance from center of left front spring to frame.

Vertical distance from center of left rear spring to frame.

Vertical distance from center of right rear spring to frame.

Before the final examination there will be a brake, clutch, transmission and motor test. In the clutch test the front wheels of the car will be tested against a vertical 8-inch curb, the low gear engaged and the clutch let in. Failure to spin rear wheels or climb curb will signify a bad clutch and 30 points will be docked.

In the transmission test, the cars will be driven on different forward speeds and reverse. Failure to drive on any one speed will cost 25 points. To determine whether the transmission is tight, contestants will have to stop the motor, then engage clutch and low gear and then push the car back and forth, to note whether the transmission case is loose on the frame.

The run will cover five different blind trips about Worcester, of 40 miles each. Cars are to be checked at approximately every 20 miles, with 3 minutes leeway on the prescribed schedule at controls. There will be no postponement of the contest in the event of inclement weather.

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DRASTIC JUSTICE IN CONNECTICUT

Chauffeur, Convicted of Manslaughter, Gets Prison Sentence—The Court Mercilessly Denounces Recklessness.

Not less than three nor more than four years in State's prison is the severe sentence that Judge Case in the Connecticut Superior Court imposed upon William H. Phair, a chauffeur who ran down Robert G. Merriman as the latter stepped from a trolley car in Hartford some time ago. The judge pronounced this penalty on Wednesday, December 2, the defendant having been convicted on a charge of manslaughter, partly with the intention of making an example of him. In summing up the case, the judge said:

"It seems to me that this case presents a particularly grave instance of criminal recklessness, and while I am fully impressed with the strong evidence presented here as to this man's previous excellent character, that neither condones his offense nor makes it possible for the court to overlook the public rights in imposing sentence. There is no more room on our public streets for an automobile in the hands of a drunken chauffeur than there is for a loaded rifle in the hands of a drunken soldier; one is hardly less a menace to human life than the other. But while this case is a serious one and calls for a serious penalty, it is well also to remember that an actual criminal intent is lacking. It is the man's gross recklessness that has brought him here, his gross disregard of the rights of other travelers, and his gross abuse of the responsibilities which every reasonable man should feel attends the running of an automobile on the public street, and I trust the lesson which this case suggests will lodge with profit to themselves and with benefit to the rest of the public in the minds of that obnoxious class of automobile drivers, who obey no law that runs counter to their own selfish convenience."

Hartford Forbids Hampering Motorists.

Hartford, Conn., has a new traffic ordinance possessing several good features, at least one of which would prove a fine thing for any other cities. It has to do with the crowding of automobiles by trucks and other vehicles in such a manner as to cause damage, and is aimed at the vicious practices of teamsters which are so common. A few days ago an arrest was made in Elm street, Hartford, under the recent provision and the offender fined for violating the road rules. John Kraftcon, a truckman, was driving on the right side of the road, when he suddenly swung over to the left-hand side in front of an approaching trolley car. His action was so timed that it pocketed an automobile belonging to Max Adler and driven by Samuel Gardner, between the trolley car and the truck. The chauffeur was on the proper side of the street, running in the same direction as the trolley and while he made an effort to prevent a smashup, he could not avoid swinging into a telegraph pole at the curb, breaking a rear mud guard. The truckman declared that his horse had been frightened by the trolley and as there was considerable doubt in this respect, the court fined him only $1 and costs.

Trolley Car Cuts a Cab in Two.

A growing sense of their own importance has led many taxicab drivers into the error of supposing that their career of reckless driving could go on forever unchecked. Occasionally, however, punishment is automatically meted out to them. A favorite pastime among them is that of racing with trolley car motormen to a certain post or "L" pillar and then cutting in ahead of the surface car in a manner that causes the motorman to slam on his brakes hard enough to flatten the car wheels, in order to avoid a crash—for taxicab drivers know full well the timidity of the knights of the controller and gong.

One Pat Cleary, on December 3d, however, suffered his just deserts when he tried this stunt without signaling to a motorman and since then he has been wondering how that Sixth avenue car that jammed his mount against a pillar at Forty-fourth street, New York City, could cut the cab in two so neatly. The trolley made such a clean cut job of it that the cab was divided into two ludicrously even halves. Fortunately, no one was in the vehicle at the time and the driver sustained only slight bruises.

Chicago Questions Taximeter Readings.

Suspicions as to the correctness of taximeter readings have been raised as the result of wide differences in the tariffs asked by different drivers going over the same route. Complaints have recently been pouring into the city hall at Chicago in great number, stating that there is something wrong with the instruments. One man, who uses taxicabs regularly between his office and his home, states that the legal rate is 90 cents, but that sometimes the meter will show $1.00, frequently $1.10, and occasionally $1.20. At present there is no municipal inspection of taximeters in Chicago, but the aldermen are considering putting the instruments in the same class with gas and electric meters, and therefore, subject to examination and test by the city authorities.

Scranton to Have More Cabs.

Scranton, Pa., will shortly have an abundance of taximeter cabs, as two concerns are now preparing to operate there. The Lackawanna Automobile and Taxicab Co. has been formed and will compete with the Scranton Garage and Motor Car Co., which has announced that it will introduce cabs of this type very soon.

CALIFORNIA'S MOTOR CAR CENSUS

Registration for Three Years Shows Total of 18,698 Vehicles—Aggregate Value Estimated at $37,000,000.

That there is about $37,000,000 worth of motor cars in the state of California, is evidenced by the last monthly report of Charles F. Curry, Secretary of State, in which he says that during the past three years 18,698 motor vehicles have been registered in his office. Estimating the average value of each car at $2,000, the large figure mentioned above is not far wrong, and while a number of the registered cars have been destroyed, others have been brought from other States and not registered, so that $37,000,000 is a fair estimate of the value of cars represented within the borders of the Golden Gate State.

The registration at the end of 1905 was 4,727. Taking it on the same basis, it would mean an invested interest of $9,454,000. At the end of 1906 the total registration was 8,764, with a valuation of $8,074,000, showing a decrease of $1,380,000. But this is accounted for to a great extent by the fact that the registration in 1905 took into consideration all the cars in existence at the time the law went into effect.

In 1906 many cars were destroyed by the big fire and were not replaced during the remainder of that six months. In 1907 there were 5,241 cars registered, conservatively estimated to be valued at $10,482,000. This shows a gain of $2,408,000 over 1906, being a net gain of $1,128,000 over the slump of 1905. For the 10 months of 1908 there have been 4,693 registrations, estimated to be valued at $9,386,000.

District of Columbia's Automobile Income.

In its annual report to the commissioners, the automobile board of the District of Columbia states that during the last fiscal year, $2,666 was received in fees from identification and registration tags issued to owners and operators of motor vehicles. During the year 1,050 persons were examined by the board and of this number 1,035 received permits. Since the date of the first automobile examination in the district, held August 11, 1903, 4,366 permits have been granted to motorists.

The report recommends that all persons operating motor cars, other than the owners and members of the owners' families and non-residents, be required to take out a license and pay an annual fee of $1, basing the recommendation on the ground that every State in the Union having motor vehicle laws makes a similar charge.

Dallas Gets Taximeter Cab Service.

"Grand old Texas" is to have taximeter cabs, too. Five machines have been put in service in Dallas, by C. G. Galloway.

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The Week's Patents.

897,664. Disappearing Luggage Carrier for Automobiles. Edward T. Robinson, St. Louis, Mo., assignor to St. Louis Car Company, St. Louis, Mo., a Corporation. Filed Feb. 11, 1908. Serial No. 415,357.

1. The combination with a vehicle body, of a luggage frame slidably mounted in said body, so as to be shiftable thereunder, flexible means attached to the forward and rear ends of said frame and means carried by said body on which said flexible means is operable, substantially as set forth.

897,694. Spring Suspension. William O. Worth, Evansville, Ind. Filed Nov. 21, 1906. Serial No. 344,427.

1. A spring suspension of the class described embracing a long semi-elliptical body spring and a shorter elliptical spring having one section rigidly bolted to the same and the upper section of the elliptical spring connected directly with the axle.

897,701. Detachable Rim for Vehicle Wheel Tires. Edwin A. Baker, New York, N. Y., assignor to Rapid Removable Rim Company, New York, N. Y. Filed Jan. 25, 1907. Serial No. 354,014.

1. A wheel construction, including a tire rim, a platform, one of said members having a recess, and two clamping members in said recess, one of said members being circumferentially adjustable; and the other member being radially adjustable.

897,715. Apparatus for Indicating or Recording Speed. Leonard E. Cowey, Brondesbury, England. Filed Oct. 26, 1905. Serial No. 284,524.

1. In apparatus for indicating and recording the speed of vehicles and other machines, the combination of a record bearing member, means actuated by the speed indicating mechanism of the apparatus for producing a speed-indicating record on said record bearing member, and means whereby said record is automatically obliterated by the working of the apparatus after a predetermined interval has elapsed, for the purpose specified.

897,726. Vehicle Tire. John L. G. Dykes, Milford, Ill. Filed July 30, 1906. Serial No. 328,397. Renewed May 6, 1908. Serial No. 431,162.

1. The combination with a tire body having a longitudinally split outer periphery and radially projecting flanges on either side of said split portion, of metal clamping rings applied to the outer sides of said flanges, the outer edges of said rings constituting in part the tread surface of the tire, and clamping bolts passed through said rings and flanges.

897,811. Automatic Pneumatic Tire Inflater. Robert C. Barrie, Philadelphia, Pa. Filed June 18, 1907. Serial No. 379,673.

1. In an automatic compensative air injector for automobiles, the combination of hub clamps with co-operative bolt fastenings for stable application, a projected lub serviceable to guide and guard the piston rod, a foot piece adjustable to various tire diameters, a piston and inclosing cylinder provided with end and side valves with a flexible tube connection to the air chamber of the wheel tire, substantially as set forth.

897,841. Tire Tool. Gustave Mohme and Aaron V. Hadlock, Chicago, Ill. Filed Feb. 8, 1907. Serial No. 356,457.

1. In a device of the kind described, a bar, a pair of arms pivotally connected to said bar at opposite ends thereof, each arm being provided with a transverse recess at its end, and the face of each arm arjacent its end being in a plane at an angle to the face of the rest of the arm, a wire guide and a wire clamp near the end of each arm, and means for causing movement of the ends of said arms towards and from each other.

897,861. Variable Speed Driving Mechanism. Henry M. Norris, Cincinnati, Ohio. Filed April 13, 1908. Serial No. 426,807.

1. In a variable speed device, a first and second shaft, a driving gear loose on one end of the first shaft, a compound gear adapted to turn with and slide on the intermediate portion of the first shaft, and having a clutch member formed thereon, and a third gear loose on the other end of the first shaft and having a co-operating clutch member for said first named clutch member, a double gear fixed to the second shaft meshing with the driving gear on the first shaft and adapted to be intermeshed with one of the members of the compound gear of the first shaft, a middle gear fixed to the second shaft and adapted to be intermeshed with the other member of the compound gear on the first shaft, a third gear fixed on the end of the second shaft and intermeshed with the end gear on the first shaft, and means for shifting the said compound intermediate with its clutch, substantially as described.

897,880. Wheel Tire. Josiah S. Cushing, Norwood, Mass. Filed Feb. 8, 1906. Serial No. 300,036.

1. In a resilient wheel, a felly having vertical guiding means extending continuously therearound, a flexible tire attached to said felly having radially and inwardly extending guiding means thereon, said tire guiding means extending inwardly beyond and being at all times in sliding engagement with said felly guiding means, whereby the tire is radially guided and laterally supported, and a continuous circular band within the tire, surrounding the felly, at a distance therefrom, which transmits the weight of the load to the tread portion only of the tire, substantially as described.

897,881. Elastic Wheel. Andre Dauvergne, Lyon, France. Filed Nov. 29, 1907. Serial No. 404,337.

1. An elastic wheel comprising in combination a rigid felly, a hub independent thereof, and capable of movement relatively thereto in the plane of rotation, a series of diametric spokes having central portions in sliding engagement with said hub, cushioning means interposed between the outer ends of each spoke and the inner surface of the felly, a central drum and rigid connections between the latter and the felly substantially as described.

897,909. Friction Clutch. Daniel F. Lepley, Connellsville, Pa. Filed July 17, 1907. Serial No. 384,196.

1. In an internal friction clutch, a revoluble disc or wheel having slots in its rim, one wall of one of the slots being concaved, a friction band encircling the rim, a lever pivotally mounted in one of the slots and having a curved seating face resting against the concaved wall of the slot, means for adjusting said lever to compensate for wear of the parts, a second lever extending through a second slot in the rim and engaging the opposite end of the band, and means for operating the second lever to apply or release the clutch.

897,936. Valve Stem Case. Edward B. Sinkler, New York, N. Y. Filed Oct. 1, 1907. Serial No. 395,350.

1. The combination with an engine having a valve stem and an actuating device therefor, of a case extending between relatively stationary parts of the engine and inclosing the exposed portions of the valve stem and actuating device, and a spring engaging the valve stem to seat the valve and also engaging the case to hold it in place.

898,043. Shock Absorber for Vehicles. Chas. K. Foster, Centerville, R. I. Filed June 12, 1907. Serial No. 378,557.

A shock absorber composed of a cylinder and a piston therein, said cylinder having ends provided with inwardly extending flanges interiorly threaded and secured to the cylinder, a plate transversely curved and disposed between said flanges, said plate having right angular ends which are curved and secured to said cylinder, enlarged portions at each end of said plate, each of which is apertured, and a screw in each of said apertures, the wall of said cylinder adjacent said plate being formed with openings aligning with said openings of the plate and adapted to receive said screws therein.

898,054. Projecting Lantern. Charles M. Lungren, Bayonne, N. J., assignor to The Railway Utilities Company, a Corporation of New Jersey. Filed May 20, 1907. Serial No. 374,678.

1. A projecting lantern comprising in combination, a lantern body having a forward lens and an opening intermediate the ends of its upper portion, a ventilating hood overlying said opening, a vapor burner positioned in said opening by laterally extending lugs secured to said body, one or more of said lugs having air channels, an inspirator for commingling with vapor the air from said channels a depending burner tube, a relatively small globular mantle mounted on the lower end of said tube, and a superheating coil arranged above said mantle in the path of the rising products of combustion.

898,057. Wheel. John W. Meixell, Lewisburg, Pa. Filed Feb. 17, 1906. Serial No. 301,596.

1. In a wheel, a rim tubular in cross section and having one edge turned up to form a clamping member and provided below the same at intervals with transverse registering bolt holes, in combination with a removable ring located at the opposite side of the rim at which said turned up edge is located and forming the opposite clamping member, and a series of bolts located in the bolt holes and terminating at one end beyond the rim in angular heads engaging the ring, said bolts being of a diameter agreeing with the space within the hollow rim whereby they reinforce the outer wall of said rim, and nuts for the ends of the bolts.

898,082. Brake for Vehicles. William Wolfe, Patton, Pa. Filed Aug. 22, 1907. Serial No. 389,644.

1. A vehicle brake, comprising a drop frame pivotally connected to the vehicle body in advance of the wheels to be braked and provided with arms extending toward the wheels to be braked, brake-shoe carriers telescopically combined with the arms of said drop-frame, brake shoes secured to said carriers in advance of the wheels to be braked, mechanism operatively connected to the said brake shoe carriers, and means for operating said mechanism arranged to exert its influence from a point in advance of the wheels to be braked, whereby a manipulation of said means operates to telescope

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said brake shoe carriers, withdraw the brake shoe forwardly from engagement with the wheels and lift the drop frame, substantially as described.

898,107. Heat Dissipating Device for Gas Engines. George S. Hill, Bradford, Mass., assignor to Hill Motor Car Company, Haverhill, Mass., a Corporation of Maine. Filed July 27, 1905. Serial No. 271,449.

1. A heat dissipating device for gas engines, comprising a fan shaped pin having integral protuberances.

898,139. Internal Combustion Engine. David Roberts, Grantham, England. Filed Nov. 9, 1907. Serial No. 401,487.

1. In an internal combustion engine, the combination with the cylinder and piston, of a vaporizing chamber exterior to but directly communicating with the cylinder, and having a portion of its wall not provided with a water jacket, and other portions provided with a water jacket, said chamber having an aperture on the water jacketed side, communicating with the air inlet and exhaust passages and valves controlling said passages, whereby said aperture serves as the air inlet and the exhaust outlet, substantially as described.

898,175. Power Transmission Mechanism. Wallace E. Belt, Dodge Center, Minn. Filed July 8, 1907. Serial No. 382,752.

1. In combination with the hub of a wheel to be driven, provided with a friction surface, a drive shaft, a system of levers each provided with an eccentric surface, a friction shoe carried upon said eccentric surface, and means carried by said shaft for turning said levers and causing said shoes to impinge against said friction surface and transmit motion from said shaft and for holding said levers inoperative when the driven element rotates at a greater speed than the driving element.

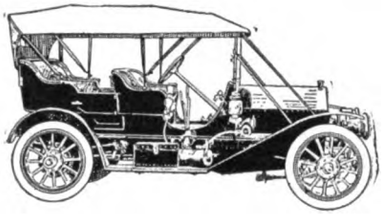
898,238. Radiator. Joseph B. Long and Frank Todd, Chicago, Ill.; said Todd assignor to said Long. Filed May 11, 1907. Serial No. 373,157.

1. A radiator having a plurality of tubes and a plurality of strips of sheet metal having transverse flutes or corrugations, a pair of said strips being arranged between each two adjacent sides of each pair in contact with each other and the flutes on the remote sides of each pair in contact with adjacent

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tubes, the summit of one of each two contacting flutes having a groove into which the summit of the other projects.

898,249. Steering Mechanism. James G. Maxwell, Washington, Pa. Filed Dec. 17, 1907. Serial No. 406,848.

1. A steering mechanism comprising the combination with the hubs of a pair of wheels, a pair of supporting plates, an axle mounted in each of the hubs and provided with an inward extension terminating in a bearing and positioned between the plates at one end, means extending through the plates and bearings for pivotally connecting the bearings, a pair of confronting segment shaped racks interposed between said plates and of a length greater than the width of the plates, a pinion arranged between and meshing with the racks, a vertical bearing for the pinion, a pair of connecting members one being between each rack and its adjacent bearing, said members positioned between said plates, an actuating pinion arranged within and engaging with one of the racks and adapted when operated to shift the first mentioned pinion and the racks whereby the bearings are revolved upon their connecting means, and means for operating the actuating pinion.

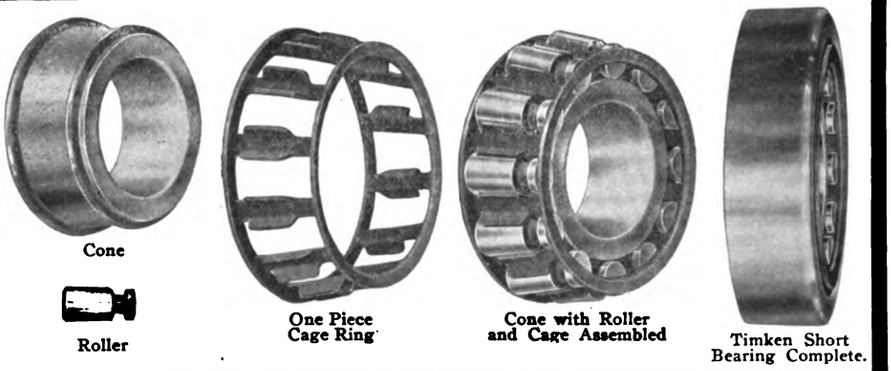
898,278. Steering Gear. Daniel W. Smith, Oyster Bay, N. Y. Filed Jan. 8, 1908. Serial No. 409,826.

1. Steering gear of the class described comprising in combination with a steering rod shaft, a gear wheel mounted fast on the shaft, an equalizing gear mounted loosely on the same shaft, a driven gear mounted on an exis at right angles to said shaft, and meshing with the fast and loose gears on said shaft, and an oscillatory arm bearing a fixed relation to the driven gear and adapted to transmit motion to the steering connections of the steering wheels.

898,280. Vehicle Wheel. Irving Snell, Little Falls, N. Y. Filed Oct. 22, 1907. Serial No. 398,556.

A vehicle wheel having a felly, a metallic band encircling the felly and rigidly secured thereto and of a width greater than said felly, a resilient band encircling said metallic band and having a plurality of cavities or openings therein, a second metallic band encircling said resilient band and connected to said first-mentioned metallic band, a second resilient band encircling the second metallic band and having a plurality of ridges on its peripheral surface, means carried by said last-mentioned metallic band for engagement with the last-mentioned resilient band and encircling the wheel.

New Series TIMKEN Short Bearings



In offering the Automobile trade our **New Series Timken Short Bearings,** we do so with the assurance that they are made from the same carefully selected steel and subjected to the same severe tests as our standard size Bearings.

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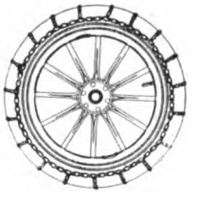
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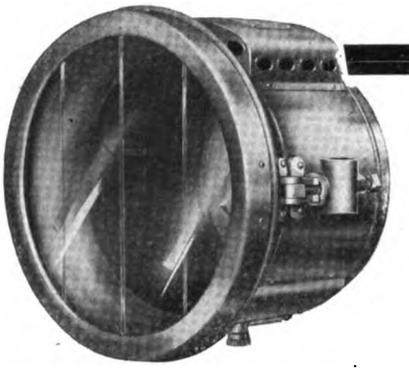
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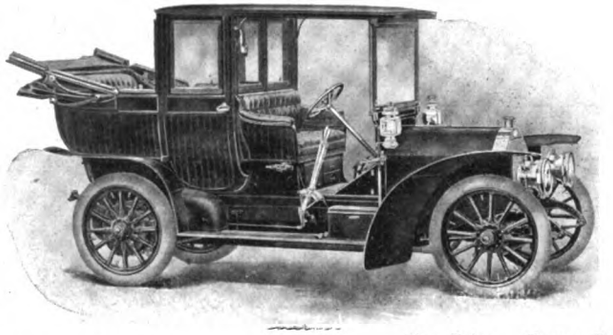
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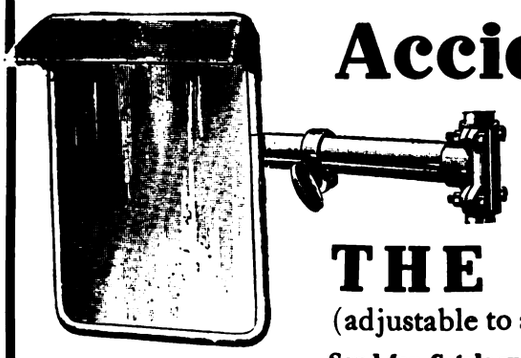
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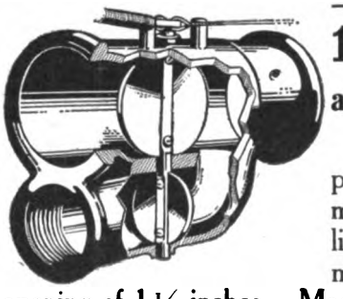
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When used for cut-out purposes, remove disc in main channel, thereby relieving back pressure from muffler through additional opening of 1¼ inches. Made to fit exhaust pipes 1" to 2½" outside diameter. Warranted not to stick under any condition. ¶ *Write for Catalog and prices.*

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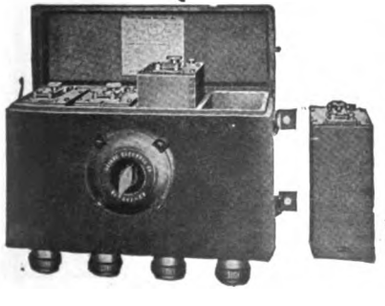
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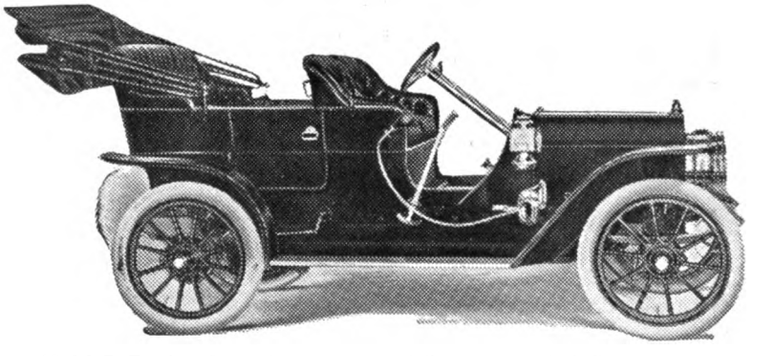
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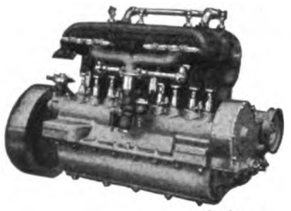
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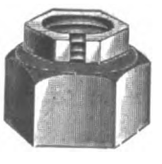
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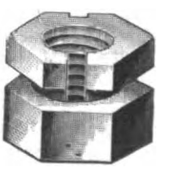
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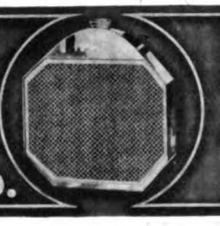
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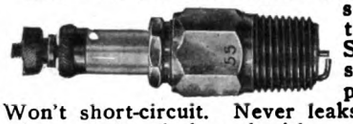
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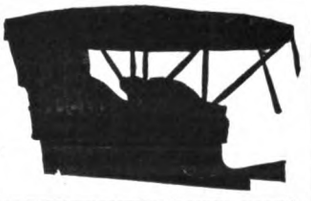
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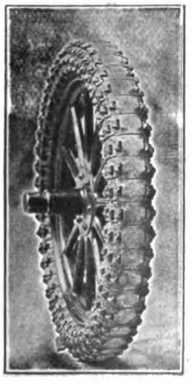
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The Only Cure for Tire Troubles

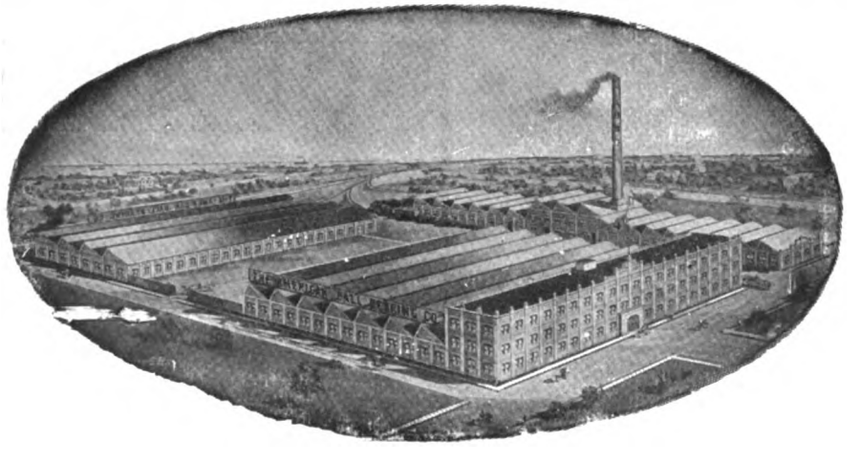
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Its records and the opinions of its users speak more loudly than self praise. Agencies for 1909 are being closed rapidly. Much good territory still open.

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CLEVELAND, OHIO, U.S.A.

ALUMALOYD SHEETS

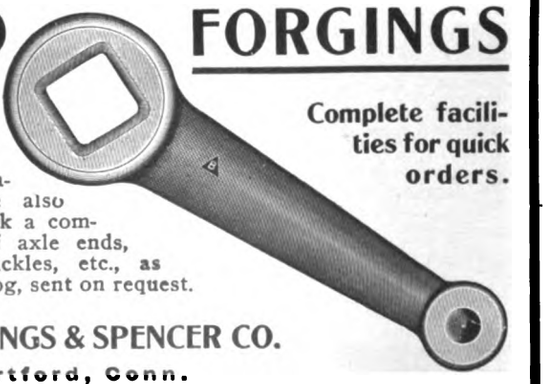
For Automobile Bodies, Dashes, Guards, Bonnets, Battery Boxes, Drip Pans, Mufflers, Etc.

STRONG—DURABLE
CALKLESS—RUSTLESS
SMOOTH—PAINT ADHERES FIRMLY

A Metal That's A Time and Money Saver

THE STARK ROLLING MILL COMPANY, CANTON, OHIO

1909 FORGINGS



Send us your specifications. We also carry in stock a complete line of axle ends, steering knuckles, etc., as per our catalog, sent on request.

Complete facilities for quick orders.

THE BILLINGS & SPENCER CO.

Hartford, Conn.

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PIFFLE

Races or tours won with this or that speedometer. Isn't it ridiculous to cackle about a few hundred or a few thousand miles?

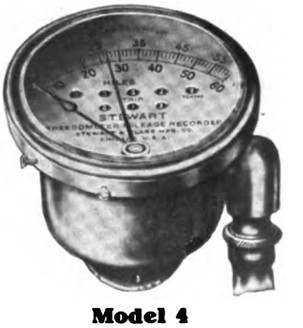
Such is not a test for a good speedometer.

The STEWART SPEEDOMETER IS GUARANTEED

for five years, 100,000 to 200,000 miles.

The Stewart & Clark Mfg. Co.

have the largest output, the most satisfactory speedometer on the market, and the largest number of satisfied customers.



Model 4

Stewart & Clark Mfg. Company

509 Diversey Boulevard, Chicago, Illinois, U. S. A.

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OPENS NEW YEAR'S EVE

Finest Decorations by S. R. BALL CO. ever offered at any Motor Car Exhibition

DEC. 31 to JAN. 7

Leading American Cars—All the Foreign Cars direct from the Paris Salon—All Accessory Makers

COMMERCIAL VEHICLES
MOTOR CYCLES
TAXICABS



Management of American Motor Car Manufacturers' Association

GRAND CENTRAL PALACE

FORTY-THIRD STREET AND LEXINGTON AVENUE, NEW YORK

Gasolene—Electric—Steam

Admission, 50c. Tuesday, $1.00

How the "goodness" is put into Morgan & Wright Tires

1—By using only the best grade of pure Para rubber and finest quality of long Sea Island cotton fabric it is possible to buy.

2—By employing the most experienced help to be had, going on the principle that with materials of a high grade the quality of a completed tire is dependent upon the amount of brains put into its making.

3—By making them in the light of twenty-eight years' experience in the manufacture of rubber goods.

4—By making them in the newest and best equipped rubber plant in the world.

5—By adhering to this unvarying rule: That *every* tire that leaves the factory shall be as perfect in material and construction as money and skill can make it.

If you want your tires made that way, why not specify Morgan & Wright's on your car for next year? They cost no more than other brands.

MORGAN & WRIGHT, DETROIT

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Overland

For Simplicity
For Reliability
For Appearance
For Comfort and
For Noiselessness

THE OVERLAND IS UNEXCELLED

The Most Complete Line in America

Model 30 Roadster (3-pass.), Planetary transmission,	$1,250
Model 30 Roadster (4-pass.), Planetary transmission,	1,300
Model 30 Coupe, Planetary transmission,	1,650
Model 31 Toy Tonneau (4-pass.), Planetary transmission,	1,400
Model 31 Tonneau (5-pass.), Planetary transmission,	1,400
Model 32 Toy Tonneau (4-pass.), Selective transmission,	1,500
Model 32 Tonneau (5-pass.), Selective transmission,	1,500
Model 34 Willys-Six Roadster or Tourist,	2,000

OVERLAND AUTOMOBILE CO., INDIANAPOLIS INDIANA

THE

Selden Car

FOR 1909

enters upon its second year with a clean record. No "first year" car has ever earned a better reputation or made a better showing.

THE CAR OF MODERATE PRICE

Touring Car, Limousine **$2000** Roadster, Landaulet

4 cylinder, 28-30 horsepower, shaft drive, selective transmission, metal body, pressed steel frame, excellent hill climber, fine finish and style, roomy tonneau, luxurious upholstery, easy riding, smooth running, economical in up-keep, in fact, a high grade car in every particular.

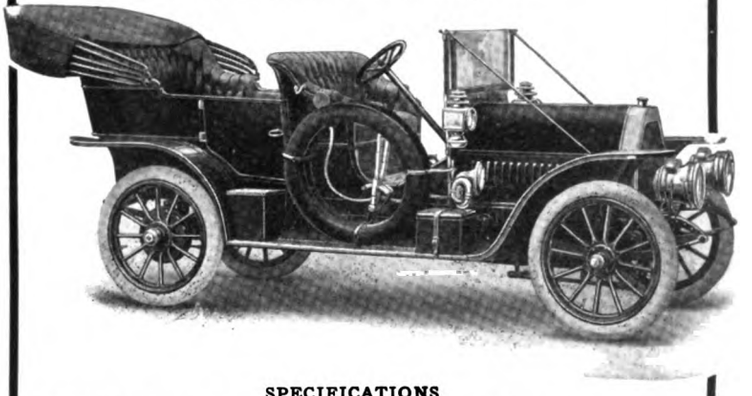
The "Silent Selden"

Agency proposition now ready. Send for catalog and specifications.

SELDEN MOTOR VEHICLE CO.
Rochester, N. Y.
Member A. L. A. M.

THE "JEWEL 40"

The Non-Skidding Car



SPECIFICATIONS

ENGINE—Rutenbur.
BORE AND STROKE—4¼x5".
IGNITION—Double—Bosch Magneto, Connecticut Coil and Exide Storage Battery.
LUBRICATION—Self contained system with oil level pump in crank case.
TRANSMISSION—Selective type, 3 speeds forward and reverse.
BEARINGS—Timken Roller.
FRONT AXLE—One piece drop forging.
REAR AXLE—Full floating type.
WHEEL BASE—120".
WHEELS—36".
TIRES—Goodyear, Diamond, Firestone or Hartford, 36x4" front, 36x4½" rear.
BODY—Seven passenger.
WEIGHT—3,000 lbs.
PRICE—$3,000.00 complete with top, Hartford Shock Absorbers, Prest-O-Lite gas tank, 9" Rushmore Search lights, side lamps and tail lamp, double tire irons and trunk rack.

Write for catalog.

THE FOREST CITY MOTOR CAR CO., Massillon, Ohio
New York Agency, JEWELL MOTOR CAR COMPANY, 1662 Broadway.

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The Largest Automobile Supply House in America

WINTER SUGGESTIONS

We have a large line of Leather Clothing, Caps, Gloves, Wool Vests, Wool Boots, Ways Mufflers, Storm Coats, Lap Robes, Etc.

ARGYLE AUTO BOOTS

Worn over Shoes for Comfort in Cold Weather Motoring.



The ARGYLE Auto boots are designed to give the motorist's feet complete protection from the elements during winter weather motoring. They are worn over the ordinary shoes and can be pulled on or off very readily. They will keep your feet warm and dry during the longest ride in coldest weather. You cannot realize the comfort they give in frigid weather, till you have worn a pair.

Every man, woman and child who motors in cold weather needs a pair of ARGYLE Auto Boots, no matter whether the time of exposure is a half hour or a whole day.

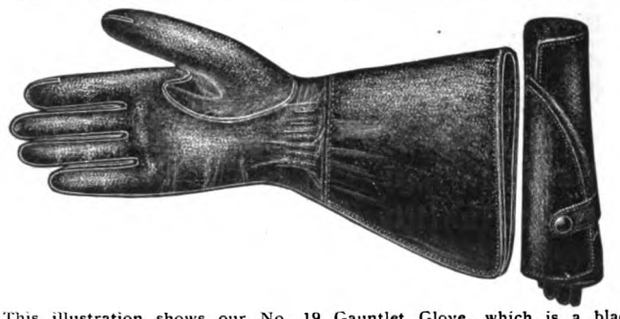
They are made of fine flexible leather, have strong leather Goodyear welted soles and are warmly lined throughout with genuine lambs-wool.

Made in all sizes, with long or short leg. Length of the long leg is 13½ inches,, and the short 10½ inches.

PRICES:

Long, per pair $9.00
Short, per pair 8.00

NO. 19 AUTOMOBILE GAUNTLET GLOBE



This illustration shows our No. 19 Gauntlet Glove, which is a black, seamless knit lined Automobile Gauntlet with extra large flexible cuff with 2 fastenings. This Gauntlet is made from the best selected imported black cape leather. It has a 7-inch Gauntlet with extra large cuff, 20 inches in circumference, which may be adjusted to smaller sizes. The cuff is lined and is guaranteed not to crack, and is stitched with genuine silk.

It will also be noted from the illustration, that the wrist is fitted with an elastic band, which will keep the Gauntlet tight, and comfortable on the wrist, and prevent it slipping down over the fingers.

The cuff is also flexible, and can be rolled into a small space, as shown in the small illustration, for carrying in the pocket. This is the finest Gauntlet Glove on the market.

Price, seamless knit lined, per pair $3.50

CATALOGUE MAILED ON REQUEST

CHAS. E. MILLER, Manufacturer, Jobber, Exporter and Importer, MAIN OFFICE: 97-99-101 READE STREET, NEW YORK

BRANCHES—54th St. and 8th Ave., New York; 202-204 Columbus Ave., Boston, Mass.; 318-320 N. Broad St., Philadelphia, Pa.; 227½-229 Jefferson Ave., Detroit; 1829 Euclid Ave., Cleveland, O.; 1392 Bedford Ave., Brooklyn, N. Y.; 824 Main St., Buffalo.

SEE OUR EXHIBIT AT BOTH NEW YORK AUTOMOBILE SHOWS.

STEVENS-DURYEA

LIGHT SIX MODEL U

It has been a source of gratification to us to be the recipients of a number of unsolicited testimonials regarding our Light Six Cars.

Because of the great pressure individual owners exerted to have us build an additional quantity of these models, we were obliged to materially increase our output for 1909. The Light Six Automobiles we will market, considerably exceed in number the volume we had originally planned to construct.

The third consecutive year of the existence of the Stevens-Duryea Light Six Model U demonstrates how the popularity and consequent wide spread demand for this car is undiminished and unabated.

"Facts are Stubborn Things"

STEVENS-DURYEA CO.

Chicopee Falls, Mass.

Member of Association of Licensed Automobile Manufacturers.

Matheson

1909 Prices Reduced $1,000

In order to sell hereafter this highest of all high-grade cars at the prices of the cheaper cars, we have **increased our working capital by $350,000** and will **double our factory output.** Send for our book of customers' letters telling of the experiences of the most prominent men of affairs in this country with their Matheson cars, covering thousands of miles of service everywhere.



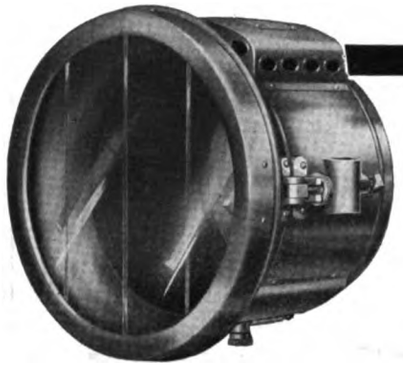
	New Price.	Former Price.
50 H. P. 1909 Touring Car	$4,500	$5,500
50 H. P. 1909 Roadster	4,350	5,000
50 H. P. 1909 Runabout	4,350	5,000
50 H. P. Limousine	5,500	6,500
50 H. P. 1909 Landaulet	5,500	6,500

MATHESON AUTOMOBILE CO.

Main Sales Office, 1886-1888 Broadway, NEW YORK CITY

Dealers wanted in all open territory.

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Exclusive Motor Lamp Features of

SOLAR LAMPS

For 1909 Equipment

FEATURE 1—All Headlights are assembled with INTERIOR SCREWS—producing a perfectly smooth exterior surface.

FEATURE 2—Special short-focus mangin mirror reflectors of the highest QUALITY and EFFICIENCY—made exclusively for Solars by Bausch and Lomb.

FEATURE 3—The entire construction by tools and jigs which assure the user absolutely interchangeable parts and repairs in future, is an important feature to the purchaser.

1909 Descriptive Booklets embodying all models and prices sent on request.

Badger Brass Mfg. Co. 604 Lyman Ave. Kenosha, Wis.

The Superiority OF Standard Bearings

is due to the absolute harmony of their various parts—not one feature here and there, but a combination of all that is best in bearing design, material and construction.

Wherever used, they prove their superiority—they run better, wear better and are better in every respect.

SEND FOR NEW CATALOG

Standard Roller Bearing Co.

PHILADELPHIA, PA.

"Firestone"

NON-SKID TREAD

Composed entirely of rubber. Formed by the raised lettering "FIRESTONE NON-SKID" arranged obliquely across the tread surface.

Contains more angles, edges and points of road contact than any other non-skid.



Spaces in and between the letters cause a suction that grips the road and prevents slipping.

The wear-resisting quality of this tread is a revelation to motorists accustomed to the quick wearing down or tearing out of the ordinary non-slip devices.

FIRESTONE TIRE & RUBBER CO., AKRON OHIO

Branches and Agencies Almost Everywhere

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Ninth National Automobile Show

Madison Square Garden

January 16 to 23, 1909, New York City

Under the Auspices of the

Association of Licensed Automobile Manufacturers

Exhibiting standard Gasoline Cars licensed under the Selden patent.

LICENSED GASOLINE CARS

Apperson	Columbia	Hewitt	Packard	Royal Tourist	Stevens Duryea
Autocar	Elmore	Knox	Peerless	Sampson	Studebaker
Buick	E-M-F-	Locomobile	Pierce Arrow	Selden	Thomas
Cadillac	Franklin	Lozier	Pope Hartford	Simplex	Walter
Chalmers-Detroit	Haynes	Matheson	Pope Toledo	Stearns	Waltham
Corbin					Winton

ELECTRIC

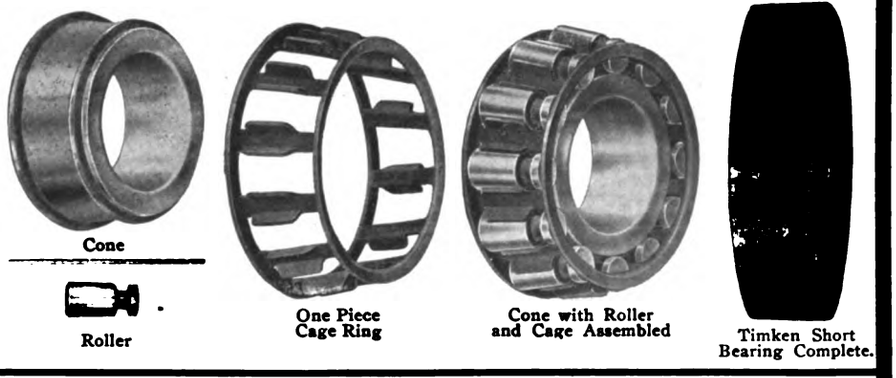
Anderson	Bailey	Champion	General Vehicle Co.	Studebaker	Woods
Babcock	Baker	Columbia	Rauch & Lang	Waverly	

STEAM

White

Complete exhibit by the Motor & Accessory Manufacturers. The only complete Motorcycle exhibit in New York, by the Motorcycle Manufacturers' Association, Commercial Vehicles, Town Cars and Taxicabs.

New Series TIMKEN Short Bearings



In offering the Automobile trade our **New Series Timken Short Bearings**, we do so with the assurance that they are made from the same carefully selected steel and subjected to the same severe tests as our standard size Bearings.

The **New Series Short Bearings** are designed for use in axles where the bearings space does not permit the use of our regular series.

These Short Bearings can be used on any axle, transmission, or other places where Annular Bearings can be used. They carry **a much greater load** than Annular Bearings of the same length, **are smaller in diameter** and in addition will take as much **end thrust** as they do **radial load.**

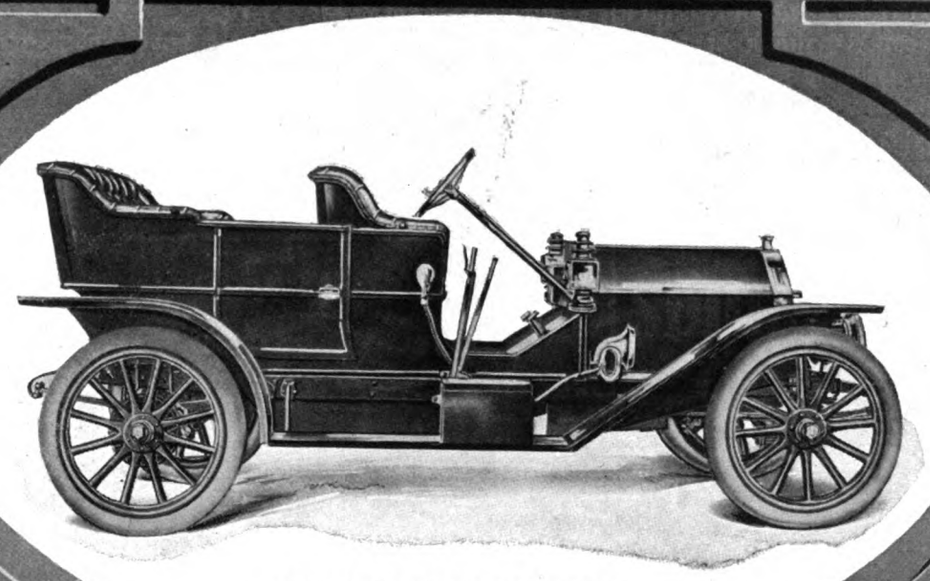
Every bar of steel entering into **Timken** Products is made to the **Timken** analysis chemically—and tested to the **Timken** test physically—which means a rejection of **45 per cent.** of every ingot before metal of suitable density and soundness for **Timken** Roller Bearings can be obtained. These new Short Bearing Rollers are made from best nickel steel.

This is one reason why **65 per cent.** of the makers of high-grade Automobiles and over **90 per cent.** of the commercial truck builders of this country use **Timken** Roller Bearings. **WRITE FOR CATALOG AND PRICES**

THE TIMKEN ROLLER BEARING AXLE CO., Main Office, CANTON, O.

Branches: 10 E. 31st St., NEW YORK **429 Wabash Ave., CHICAGO**

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THE INTER-STATE TOURING CAR
Model 25, $1750.00

The Inter-State

THE INTER-STATE Automobile is built for the intelligent purchaser who wants the high quality which heretofore has been found **only** in **high-priced** cars, but who does not want to pay from twenty-five hundred to five thousand dollars.

The INTER-STATE makes it unnecessary for such purchasers to pay such prices.

It is a **permanent** car, embracing every essential factor of worth in automobile design, style, comfort, speed, endurance, dependable materials and workmanship. And it is sold **at** a price—$1,750 complete, including Eiseman Magneto — but little higher that the cheap good-enough-until-later cars.

There is no economy and most assuredly no automobile satisfaction in buying a car that you will want to discard the second season for a **real** car. Especially since you can buy the **real** car, the **satisfying permanent** car **this** season for just a little more money than a **temporary** car.

In justice to your own best interests, let us urge you not to **think** of spending your money for a "cheap" car, or even a higher-priced good car, until you have seen the INTER-STATE. We are glad to let you be the sole judge as to its worth at $1750.

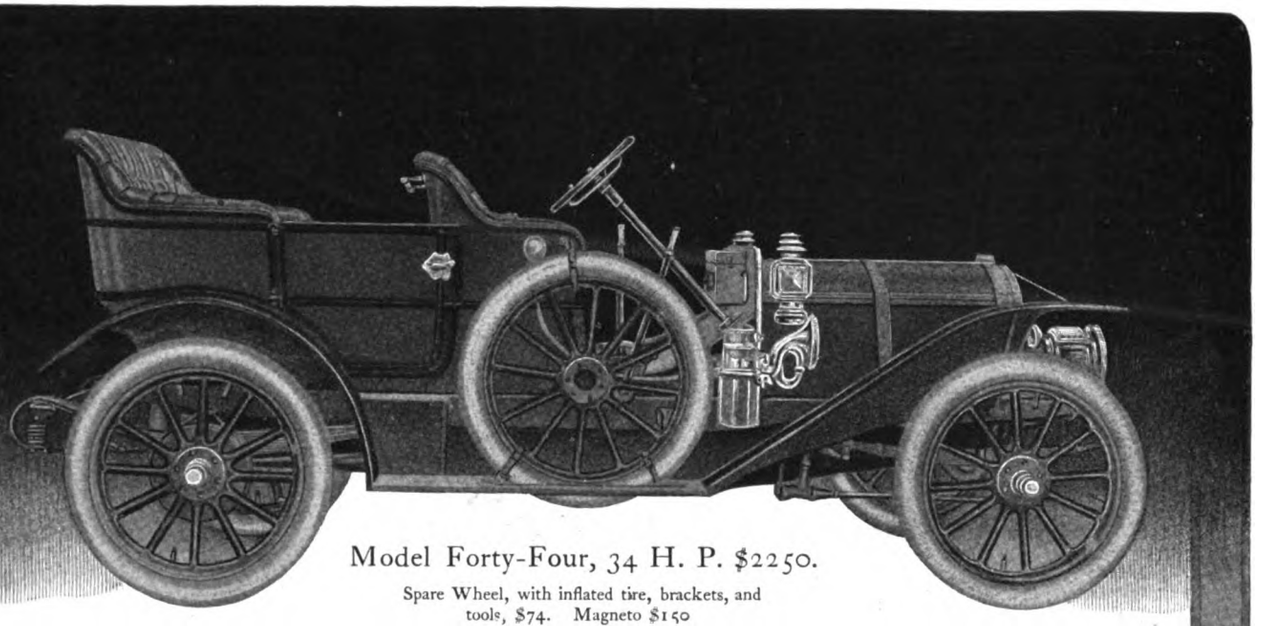
Dealers and Agents will appreciate the opportunities opened to them by the INTER-STATE. Write for our attractive proposition.

Inter-State Automobile Co., 126 Willard Street, Muncie, Ind.

AT THE SHOWS

The full line of Inter-State automobiles, including Standard Touring Car, Demi-Tonneau, Double Rumble Roadster, Single Rumble Roadster and Tourabout, will be exhibited at Grand Central Palace, New York, December 31-January 7, and at the Coliseum, Chicago, February 6-13.

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Model Forty-Four, 34 H. P. $2250.

Spare Wheel, with inflated tire, brackets, and tools, $74. Magneto $150

THE STRAIGHT-LINE-DRIVE

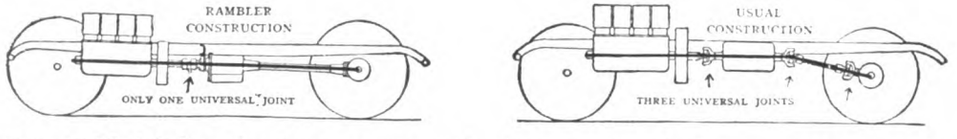
Power cannot be carried around a corner without great loss, due to friction. In the ordinary automobile much energy is wasted in transmitting the power from the engine to the rear axle through universal joints, or, in other words, around corners.

In the Rambler the driving shaft, when the load is in the car, is in direct line with the crank shaft and the angle found at one of the universal joints in most other driving systems is eliminated. The drive is thus accomplished in a direct line.

The Rambler straight-line-drive delivers the maximum power—saves energy—prevents wear—reduces cost of upkeep.

Rambler

The Car with the Offset Crank Shaft



Seven passenger Model, forty-five horse power, with offset crank shaft, $2500. Other models $1150 to $2500. Write for catalog describing in detail Rambler offset crank shaft, Spare Wheel, straight-line-drive and other exclusive features of the new Rambler models.

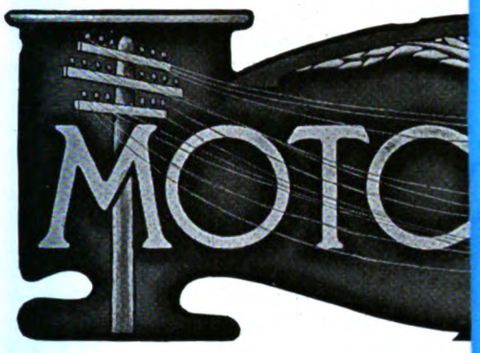
THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory, Kenosha, Wis.

Branches and Distributing Agents:

Chicago, Milwaukee, Boston, New York, San Francisco. Representatives in all leading cities.

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Volume XIX. New Yo

ANOTHER POPE COMPANY IS BORN

Makes Ready to Take Over Business from Receivers—Creditors to Get Payment with Interest Added.

Marking the final period of reorganization, a new Pope Manufacturing Co. was incorporated on Saturday, the 12th inst., which is to take over the property and business from the receivers. While bearing the same name as the old company, the new corporation differs from the old in that the papers were taken out under the laws of Connecticut instead of New Jersey. The incorporation is preliminary to the almost immediate transfer of Pope affairs to the reorganized concern, and indicates an early payment of a final dividend to all Pope creditors with approved claims. The receivers, Albert L. Pope and George A. Yule, further promise that 6 per cent. interest will be paid to the creditors on their claims for the period that payment was delayed, in addition to the satisfaction of the full face amount.

In accordance with the reorganization plan made familiar some time ago, the new company is capitalized with $2,500,00 preferred stock and $4,000,000 common, the shares having a par value of $100 each. The incorporators included Albert L. Pope, George Pope, Charles E. Walker and Wilbur C. Walker. At the meeting which was held in Hartford, Conn., on Saturday, there was present with the four incorporators, Attorney Lewis H. Freedman, of New York, representing beside himself, Harry Bonner, August Hockscher, Frederick H. Ecker, Albert Stickney, Henry V. Poor, Arthur W. Pope and Milton Ferguson.

Directors for the new company were chosen as follows:

For one year, Harry Bonner, Frederick H. Ecker and August Heckscher; for two years, Lewis H. Freedman, Albert Stickney and A. W. Pope; for three years, Henry V. Poor, A. L. Pope and Milton Ferguson. At

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and Lane alleges that $51,000 in stock was issued to John Swindeman for the assets of the Maumee Motor Car Works, later estimated as not worth more than $1,500.

Plan Jobbing Business in Pueblo.

Tempted by the prospects of a jobbing business in the Southwest, a new wholesale house is opening in Pueblo, Col., to be known as the Pueblo Automobile Goods Co., and located at 214 Pope block, on Fourth street. The concern is capitalized at $25,000. W. L. Anderson, of the Anderson Coal Co., is president; L. H. Walker, vice-president; F. H. Bullen, president of the Pueblo Bridge Co., treasurer, and Ralph Cruzen, secretary and manager.

Organize to Make Self-Starters.

Grand Rapids, Mich., is shortly to have a factory devoted to the manufacture of a self starting device for automobiles invented and patented a year ago by J. Watson Fitzgerald. The concern will be known as the Starter Mfg. Co., and is capitalized at $40,000. The owners of the company include W. W. Annabel, president, and J. Watson Fitzgerald, secretary-treasurer, holding $15,000 in stock each, with L. J. Clark, vice-president, holding $10,000.

To Make Tire Cements in Toledo.

All of the cement machinery, trade marks and trade names of the bankrupt National Cement & Rubber Co., of Toledo, O., having been bought by the Sterling Cycle Sundry Co., of the same city, the latter concern will engage in the manufacture of tire cements on a large scale. Emile Haberstock, general manager of the Sterling company, was formerly superintendent of the National business.

Will Blossom as the Sunflower.

The St. Joe Motor Car Co., of Elkhart, Ind., is to blossom out as the Sunflower Motor Car Co., after it moves to Hutchinson, Kan. It will raise its capital from $50,000 to $100,000, and residents of Hutchinson will be permitted to buy stock. Charles S. Conover, of Kansas City, is president; O. G. Sellers, of Elkhart, Ind., vice-president; and W. F. Feckler, of St. Paul, secretary and treasurer.

Lindsley to be Reorganized.

Plans to reorganize the insolvent J. V. Lindsley Auto Co., of Dowagiac, Mich., are on foot. It is proposed to ask for a receiver to straighten out the affairs of the old company, after which it will be reorganized with $50,000 capital and will take a location in Seymour, Ind.

Mossberg Takes Control of Auto-Cle.

The Frank Mossberg Co., of Attleboro, Mass., will in the future manufacture the Auto-Cle automobile wrench. This well known device has in the past been made by the Quincy, Manchester, Sargent Co., but hereafter the Mossberg factory controls it.

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The Week's Incorporations.

Somerset, Pa.—Somerset Automobile Co., under Pennsylvania laws, with $10,000 capital. Corporators—J. S. Picking, Jr., et al.

Philadelphia, Pa.—M. T. D. Motor Parts Co., under Pennsylvania laws, with $25,000 capital; to manufacture and deal in motor vehicles.

Yonkers, N. Y.—Butler Electric Clutch Co., under New York laws, with $50,000 capital. Corporators—W. W. Butler, M. E. Thew, and C. Alexander.

Jersey City, N. J.—Rubber Substitute Co., under New Jersey laws, with $10,000 capital. Corporators—Robert Ferrier, Thomas R. Armstrong and Thomas H. Rose.

Chicago, Ill.—Randolph Motor Car Co., under Illinois laws, with $300,000 capital; to deal in automobiles. Corporators—E. C. Gage, E. W. Burgstresser, and S. Hytowitz.

Muncie, Ind.—Auto Parts Mfg. Co., under Indiana laws, with $15,000 capital. Corporators—Francis M. Boyer, John P. Kendel, A. Boyer, Arthur W. Taylor, Jr., and M. Kandel.

Jersey City, N. J.—Crude Rubber Regenerating Co., under New Jersey laws, with $50,000 capital. Corporators—Charles I. Taylor, Frank H. Parcella and Thomas H. Beardsley.

Cleveland, O.—General Auto Carriage Co., The, under Ohio laws, with $10,000 capital. Corporators—W. E. Crittenden, Charles F. Laughlin, F. A. Bishop, C. D. Stone and J. Sievwright.

New York City, N. Y.—Club Automobile Co., under New York laws, with $25,000 capital; to manufacture and rent cabs and automobiles. Corporators—T. Hopkins, E. L. Mooney and J. J. Robinson.

Buffalo, N. Y.—Grabowsky Power Wagon Company of Buffalo, under New York laws, with $25,000 capital; to manufacture automobiles and power wagons. Corporators—J. D. McDonald, J. F. Valley, and J. Moore, of Buffalo.

New York City, N. Y.—Self-Loading Wagon Co., under New York laws, with $25,000 capital; to manufacture motors, cars and power wagons. Corporators—M. Kotraschek and A. M. Bremer, New York City; D. W. Leonard, Paterson, N. J.

Rambler Show at New York Branch.

During the period of the New York automobile shows Thomas B. Jeffery & Co. will conduct a Rambler show of their own at their spacious New York branch recently established at 38-40 West Sixty-second streets. All Rambler dealers and friends will be entertained at the branch, and such conveniences provided as will make them feel at home. All of the 1909 Rambler models will be on exhibition and demonstration, and certain of the new features will be displayed in an attractive and convincing way. The Rambler spare wheel, which carries a fully inflated tire and can be substituteed for a regular wheel in three minutes, will also be shown.

Give Luncheon to the Garden Staff.

A luncheon to the staff of the Madison Square Garden was given by the management of the Association of Licensed Automobile Manufacturers, on the 15th inst., at the Hotel Breslin, New York, with the object of promoting a united spirit in making the coming Licensed automobile show at the Garden a complete success. The Garden delegation, headed by James C. Young, the secretary, and C. M. Schroeder, the business manager, included about 18 of the chiefs of various departments, while the Licensed contingent numbered about 14, headed by General Manager E. P. Chalfant, who presided.

Buffalo to Have Only One Show.

Buffalo's show situation promises to have a peaceful solution through the holding of but one show next spring. The annual election of the Buffalo Automobile Trade Association, just held, resulted in a victory for those favoring the one show plan as against the ticket whose platform advocated a separate exhibition from that given by the local automobile club. W. C. Jaynes headed the successful ticket as president.

Johnson Enjoins a City Purchase.

On the ground that the city did not issue a general call for bids, the Johnson Service Co., of Milwaukee, Wis., has obtained an injunction against the municipality restraining it from buying the car selected for the police department. The machine chosen was offered at $4,000, but the complaining company urges that more bids should have been invited.

Convention for Maxwell Dealers.

Maxwell dealers attending the Grand Central Palace show in New York will gather in annual convention on Tuesday, January 5, at the Hotel Manhattan. The new sales organization under which they are operating will be discussed.

Chase Reorganizes and Expands.

The Chase Motor Vehicle Co., of Syracuse, N. Y., has been reorganized and expanded. The plant in South West street is being remodeled and enlarged, while the working force is being increased to 500 men.

Midland Makes Capital Increase.

Increase in the capitalization of the Midland Motor Car Co., of East Moline, Ill., has been effected. The raise is from $100,000, at which the company incorporated last January, to $150,000.

Jeffery Branch in Cleveland.

Thomas B. Jeffery & Co. intend opening a branch in Cleveland, O. A choice of a location will be made in a few days.

In the Retail World.

Frank Z. Ames plans an automobile agency in Ottawa, Ill. He has leased the Ward building on Main street for the purpose.

W. S. Birnie, of Rome, N. Y., has built a new garage. In addition to carrying supplies, he will do machine shop and repair work as well.

H. M. Covey, of Portland, Ore., is in new quarters in the Wemme building, Seventh and Couch streets. Two floors accommodate his agency, repair and garage business.

The Deere & Webber Co., of Minneapolis, Minn., large dealers in agricultural implements, have added automobiles to their lines. They will handle the Velie, built in Moline, Ill.

A northern New Jersey branch of the Oldsmobile Co., of New York, has been opened in Newark, N. J. The formal opening took place at 88 Washington street this week.

The Central Pennsylvania Automobile Co., handling the Franklin at Harrisburg, Pa., has taken new quarters at Fourth and Chestnut streets. The building is 50 by 210 feet.

The Cameron Motor Co., of New York City, has taken a lease of the building at 231 West Fifty-fourth street. It will be made the Metropolitan headquarters for Cameron cars.

Charles Wentz and P. Miller, the latter a local theatrical manager, have opened an automobile agency in Dayton, O. It is temporarily located on Hannah lane, handling Jackson and Maxwell cars.

E. J. Wall, who until recently acted in the capacity of traffic manager for the Pope Mfg. Co., has joined the sales department of the Boston branch of Thomas B. Jeffery & Co. He will assist Manager C. P. Rockwell.

Rene A. Brassey, agent for the Thomas in Los Angeles, Cal., moves from Seventh and Olive streets to new quarters this month. The building prepared for him is at 846 South Olive street, and has all modern garage conveniences.

Racine Requires More Men and Space.

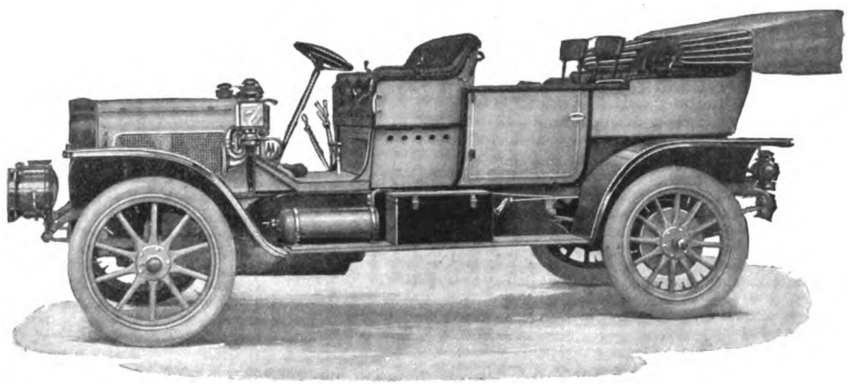
Increased business in the building of touring car, limousine and taximeter cab bodies, together with tops, dashes and other fittings, has led the Racine Mfg. Co., of Racine, Wis., to enlarge its factory. Two large, four story buildings have been prepared for occupancy and foundations for a third one are now being laid, while extensive purchases have been made of surrounding land, looking to future additions. A large number of expert body builders will be added to the force.

Worcester Will Try Taximeter Cabs.

John S. Harrington, of Worcester, Mass., believes that he can institute a successful taximete cab service there. He will install three as an experiment.

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THE
MODEL "M" WHITE STEAMER
Is The Most Luxurious Car On The Market



The luxury of the White Steamer is unequalled by any other machine. There is no car, however expensive, which has better upholstery, better springs or better finish. Owing to the compactness of the mechanism, the body is much more commodious than in any car of similar wheelbase, (122 inches). Few other makes have such a liberal tire equipment (36x4 on the front wheels and 36x5 on the rear wheels.)

The luxury of any car, however, depends largely upon its riding qualities and here the White is "in a class by itself." It is the only car where starting and changes of speed can be effected without jerks or jolts. It is the only car which runs noiselessly under all conditions. It is the only car which is free from vibration, because it is the only car where the power is applied evenly and continuously, and not spasmodically.

Just as our Model "M," priced at $4,000, is the most desirable of the higher-priced cars, so our Model "O," at $2,000 predominates among moderate priced machines.

Write for descriptive matter.

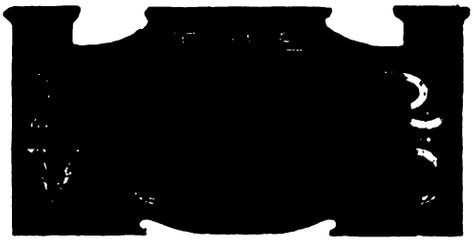
THE WHITE COMPANY
CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.

PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.

SAN FRANCISCO, Market St. at Van Ness Ave.
ATLANTA, 120-122 Marietta St.

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NEW YORK, DECEMBER 17, 1908.

The New York Show Numbers of the Motor World will bear dates of December 31st, January 7th, 14th, and 21st, respectively. The first two will interestingly and comprehensively forecast and describe the exhibition of American Motor Car Manufacturers Association, and the other two do similar duty for the show of the Licensed Association of Automobile Manufacturers. As usual, the Motor World's reports of both shows will deal with goods actually exhibited and will not comprise mere trade puffs or extracts from catalogs written weeks before the doors of the exhibition halls are opened.

The Multiple Jet Idea.

That peculiar compromise, the multiple jet carburetter, apears to have "come to stay," in common with all the more approved forms of mechanism now recognized as permanent features of the average car. Though still found to only a limited extent, its use is still adhered to by so many makers of good repute and of successful practice in other respects, that it seems bound to continue to hold the position it has assumed, if not to grow more popular as time goes on. That it is not more prevalent at the present time is evidence of how near the single jet arrangement can be brought to yielding the desired results. That that type never yet has been absolutely satisfactory, however, also is evidenced by the continual shifting about of designs by even the best established manufacturers.

The conditions so familiar and puzzling to the designer are these: that the carburetter must yield a uniform quality of gas at all times, regardless of any conditions affecting the motor; that in order to do so, its action must be unaffected by the position of the throttle, little if any affected by weather or temperature conditions, and unaffected by minute variations in the density or fluidity of the fuel.

Thus far, the conditions are relatively easy to fulfil. The difficulties of carburetter design hinge about the facts that the suctions of the various cylinders are intermittent, that the cylinders are located at different distances from the mixing chamber, and that the gas requirements vary with both the speed of the crank shaft and the load which is being carried.

Because the engine may be running fast under only a very slight load or no load at all, or very slow under no load or a very heavy load, it is very difficult to standardize the service conditions of the carburetter in such a way that the intermediate points may be met with proper regulation under all possible circumstances. For any single set of coincident requirements, absolutely satisfactory results may be obtained with the ordinary type of plain jet and venturi mixing tube. Outside a limited range on either side of that point, whatever it may be, the compensation now possible must be more or less of a compromise. On this account it is particularly difficult to obtain good results at very low engine speeds with the ordinary carburetter when working on nearly a closed throttle, and also on this account, the introduction of the secondary and auxiliary jet has been deemed expedient.

Tinkering with the Tariff.

It was not the tariff that so quickly built up the automobile industry to its present size in this country. It was the popular fascination of the automobile itself. But the tariff undoubtedly assisted and protected the establishment of American makers by shielding them from the competition of foreign manufacturers enjoying a very much lower cost of labor. Important as this protection has been in the past, it is even more vitally important now, because of the change in the European product to a greater similarity to the American types, resulting in a competition based less on engineering ability and commercial cleverness in discerning the desires of buyers than on beating down the scale of wages to the minimum.

In placing the tariff issue squarely on the basis of comparative wages at home and abroad, the automobile manufacturers have acted with wisdom. The comparison is an absolute and convincing answer to proposals for a reduction.

No complaint can be made of lack of competition among the domestic makers. Every benefit that competition can bring to the public is observable in the industry at the present time, with the one exception that the element of cheap European labor is partially held in check by the import duty. Adequately to meet the difference which this European labor presents in manufacturing cost, the duty should be raised considerably from its present figure of 45 per cent. But the domestic makers do not ask for such an increase, being willing that the tariff should remain as it is, with some corrections in the manner of classification.

The competition among the American manufacturers themselves is bringing the cost of motor cars down to the minimum under which they may be produced while paying the liberal American wage scale. Nothing could be further from the truth than that the automobile business in this country is in the hands of a trust or trusts. There are probably not more than two makers in the United States who have anything like a reciprocal agreement on production or prices, and who are not fighting their battle for existence absolutely alone and against the most lively kind of competition. To have to turn and face cheap European labor as well, is more than enough to occasion dismay.

If public welfare demands that the purchasers of automobiles be supplied with their machines at the low price commensurate with the scale of wages paid to labor in Europe, then it were a sad mistake to have given the domestic manufacturers the tariff encouragement to build their factories and train their men. The lowering of the price to the motor car user would not seem to be quite enough to compensate for reductions in domestic pay rolls and production.

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Popular impression to the contrary, notwithstanding, the profits of the automobile manufacturers as a whole have been exceedingly small, considering the hazards of the new business, the capital invested, and the energy and enterprise expended. In fact, if the total amount lost in experiments and "dead work" by American manufacturers, including the vast army who have failed and gone out of business, could be arrayed against all the true net profits, it is more than doubtful whether the latter would even equal the former.

While the automobile industry is already very large, yet when compared with other lines of vehicle manufacture it is small, and the possibilities of future expansion are enormous. It is still an "infant industry" in the sense of tariff discussion. If it is to be protected so that it may thrive and grow, there is occasion for rejoicing, but if it is to be exposed to the malady of pauper labor it might best die young. Fortunately, however, an inquiry into tariff conditions does not necessarily mean a reduction in the tariff.

Winter and the Motor Clubs.

In almost every automobile club there are fellows who through inclination or compulsion assume the arduous burden of stimulating the interest and keeping "something doing" with a view to making the organization a success and swelling the membership roll. Heretofore the winter months have loomed up with no more attractive possibilities than "smokers" or discussions on automobile legislation to draw the members together, but latterly there has appeared almost an embarrassment of riches in the things available for attractive winter programs. In fact, winter now seems to offer a season quite equal or superior to summer for the purpose of making an automobile club useful and entertaining to its members.

While comparatively a small proportion of the membership of the clubs can attend the big races like the Vanderbilt and the Grand Prize, when they actually occur, yet they can during the winter months arrange to see these affairs run over for their benefit in the comfort of their own club assembly rooms. The enterprising moving picture concerns have "canned" all the big automobile races, both here and abroad, and "canned" races, if properly served, are not half bad.

With a magic touch the spectator is transported from one place on the course to another, always just in time to see the most exciting incidents and the biggest accidents. Furthermore, after having seen the cars get away from the starting line and having been wafted around to the various points on the circuit where the best views could be obtained, he is returned to his position in front of the grandstand just in time to watch the finish. Had he actually attended the race in person, in all probability he would at that time have been compelled to remain at practically one point, and would have been "shooed" away from the line at the start and finish with a bayonet.

Two or more of the big races can be combined for the one evening. To fill the program to overflowing, the moving picture people themselves have devised automobile race films enacting a thrilling melodrama, which if not convincing is entertaining.

In almost the same class come the illustrated talks describing around-the-world trips, picturesque runs and the like. Some of these have been found much more interesting than they even promised to be. The presence of the car which figured in the adventure shown in the pictures in some cases adds to the effect.

There is a growing willingness on the part of manufacturers to lend good talkers who can hold an audience of motorists in their spell in explaining the construction and merits of particular features of design or construction. Also there are other subjects, like autogenous welding and similar wonders, which lend themselves to platform work and demonstrations. The commercial interests backing some of these things are very glad to have them exploited, and supply all the talent and accessories necessary to make an evening successful. Exhibitions of famous racing or touring trophies can sometimes be arranged, as minor attractions between times.

Where road building has received any attention from a club, there are possibilities in the illustrated expositions on highway construction methods, which experts from governmental sources are glad to give, since it presents an opportunity for them to interest the public in their work. In some instances the chief of police or the mayor may be invited to address the automobilists, and no matter how roundly he intends to score them, he is pretty sure to feel better disposed toward them than before he met them in the pleasant surroundings of the club.

The awarding of prizes for competitions that the club itself may have promoted, such as season mileage or repair cost contests, may properly be put off until some night during the winter, when the award will serve as a good reason for requiring the presence of the members. Local dealers now get their sample cars sufficiently early to exhibit them during the winter, and a series of club room shows, giving each dealer a chance to display and talk about his car, is possible.

Little complaint, therefore, can be made that the clubs having their foundation in motoring must look upon winter as a season for hibernating or for lessening activity. Whether a club be deadly serious or lightly frivolous in its general character and purpose, it can, under the newer order of things, find meat to its liking and on which it will thrive. All that is necessary is a bit of enterprise on the part of those whose duty it is to arrange for the "doings." The present tendency suggests the possibility that before long some shrewd enthusiast will organize a bureau or agency for supplying clubs with the best talent in the classes indicated, to make still easier the task of keeping up club interest in the winter.

COMING EVENTS

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 1, 1909, Los Angeles, Cal.—Automobile Dealers Association's 24 hours race, Ascot Park.

January 1-2—Quaker City Motor Club's two days endurance run, Philadelphia to Wilkes-Barre, Pa., and return.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show, Madison Square Garden.

January 21-31, Los Angeles, Cal.—Automobile Dealers Association's show.

January 27-February 3, Philadelphia, Pa.—Automobile Trade Association's eighth annual show, Second Regiment armory.

February 6-15. Chicago. Ill.—National Association of Automobile Manufacturers' Show, Coliseum and First Regiment Armory.

February 15, Detroit, Mich.—Detroit Automobile Dealers Association's show, Wayne Pavilion.

February 15-20, St. Louis, Mo.—Automobile Manufacturers and Dealers Association's annual show.

March 6-13, Boston, Mass.—Boston Automobile Dealers Association's (Inc.) seventh annual show, Mechanics Building.

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RELIABILITY IN A STRENUOUS TEST

Rough Roads and Severe Weather Mark the Worcester Run—Eight Apparently Perfect Scores Made.

As is usually the case with reliability contests in which a technical committee is called upon to decide the scores of the various contestants by a process of minute hair-splitting examination, the final decision regarding the winners of the Worcester Automobile Club's 210 miles run has been delayed. Up to yesterday (Wednesday) the number of actual perfect scores was not yet announced. Eight cars, however, survived the preliminary ordeal and the stresses of the contest itself.

Starting out on the morning of Saturday, the 12th, in a dreary, dull rainfall which turned into a snowstorm and threatened to become a blizzard, fourteen contestants began the contest at 6 a. m. When the competition finished in pitchy darkness that night, the eight successful drivers reported that their scores were to external appearances, perfect. This, of course, did not necessarily mean that all of these would be adjudged absolutely free from penalties at the technical examination. In fact, the chances were that in most cases, the cars which had been put through such a hard, straining test, would have their scores materially chipped. Not only did the technical committee have to investigate the condition of the motors and mechanism, but also to measure various parts of the external portion of the cars, to ascertain if they were at all out of alignment. Various relative distances between wheels, springs and frame were taken and had to be compared with the same set of measurements made in an examination made previous to the start of the run. The contest, to be sure, was a most exacting one, and before many weeks, the exact results will be made known.

The octette who pulled through the entire distance without repairs or adjustments calling for obvious penalizations, were the following:

Ray McNamara, Premier; A. M. Lloyd, American; H. M. Cobe, Lozier; C. S. Carris, Franklin; B. E. Robinson, Rambler; H. E. Wilson, Lozier; A. E. Dennison, Knox; H. J. Murch, Cadillac.

The others, who either dropped out, or were fined to a greater or lesser degree, were:

E. B. Belcher, Berkshire; J. Oswald, Studebaker; George Stowe, White; William Bourque, Knox; E. P. Blake, Jackson; E. W. Williams, Rambler.

The contest was held over five different routes of approximately 42 miles each, beginning and ending at Worcester. Thus as the entire contest radiated from Worcester, local persons who were interested in the affair were enabled to get the returns and news of the run at the close of each lap. The five courses were laid out so as to include the worst roads around Worcester and the contest committee made all arrangements possible to make the run a strenuous one. As a whole, the cars performed remarkably well and the drivers did good work and clever driving, the breakdowns and penalizations that occurred being due to the snow and slippery road conditions, rather than to mechanical defects in the cars.

Of the six who met with trouble on the run, William Bourque, driving the Vanderbilt Cup Knox car, was the first to withdraw. On the second lap, while trying to avoid the American Gadabout which was skidding down hill on slippery pavement, Bourque ran his mount into a ditch, smashing a mudguard and stalling his motor. On the next round, his hoo-doo continued to follow him and after breaking his valve gear, he withdrew.

E. P. Blake, at the wheel of a Jackson, was the next to come to grief. He was passing Holden, on his way to Princeton, when on a turn in an ice-covered stretch, his car began to slew "around, around, around." After making three complete revolutions, it crashed into a woodpile and upset, throwing the passengers out into the snow. None was hurt to any extent, but a broken axle ended the car's usefulness. At Quinapoxet, E. W. Williams had the misfortune to go out with rear axle trouble, and at North Brookfield, George Stowe, driving the White entry, the only steamer in the contest, broke a piston rod and began to slide down hill backwards. Several other drivers had to scurry out of the car's way to avoid being hit.

One of the hard luck stories of the day was that of J. Oswald, the Studebaker pilot, who suffered a penalization because his gasolene supply gave out and made him late at a control. The Berkshire car was another to meet with trouble on one of the hills. When it failed to get sufficient traction to carry it to the summit of one of the steep grades on the last run, its passengers got out and pushed and this spoiled the car's otherwise perfect score.

Among those who were more fortunate in not meeting with breakdowns on the road, were some of the veteran drivers. Ray McNamara, who was the "pathfinder" of the Glidden tour, carried the Premier through in good shape; C. S. Carris, who has piloted the Franklin to victory in so many competitions, sent the little air-cooled car over the ground to the queen's taste, while Al. Dennison, in the second Knox entry, had better luck than his team-mate, Bourque. Harry M. Cobe, who has distinguished himself in 24 hours races, came very near getting arrested when he started out to beat the rest of the field to the controls. He drove as though he were in a race and only let up in his grandstand play when warned by the Worcester chief of police to stop. Wilson, who handled the second Lozier, was another among the leaders. A. M. Lloyd, in the American "Gadabout"—that car with the new name, and Birney Robinson, in the Rambler, pulled through without difficulty, while Harry Muren, in the little Cadillac, kept up with the high-priced cars, as far as



VIEW IN REAR OF CITY HALL, WORCESTER



STARTING FROM THE WORCESTER COMMON

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H. J. MURCH, CADILLAC

while Harry Murch, in the little Cadillac, kept up with the high priced cars, as far as good going was concerned.

Some of the drivers lost their way shortly after the start, which was made in the dark at 6 a. m. They had climbed Dead Horse hill without any trouble and had passed through Spencer, when several failed to follow the confetti and took the beaten path toward Oakham. These went three or four miles out of their way before they discovered the mistake. All managed to make up time, however, and reached the 8 o'clock control at Worcester on schedule time.

The second flyer of the contest went over a route through Holden to Hubbardston and back, and the third, or last run of the forenoon, was through Princeton, Sterling and Boylston, a distance of 37½ miles, with 1 hour 45 minutes allotted to cover it. A rest of an hour was given at noon for luncheon and the contestants then set out through Trowbridgeville, Oxford, Webster, Douglas, Wilkinsonville and Millbury. This was the hardest trip of the day and for a while it was feared that the cars would not reach the control on time, but most of them succeeded in doing so. The last lap was the longest of any, 46½ miles. It took the cars out through Paxton, Coldbrook Springs, Oakham and back via North Brookfield, Spencer and Leicester, 1 hour and 15 minutes being the time allowed. By this time several of the drivers were commencing to feel the effects of the extreme cold and were glad when the contest was over that they might get a chance to thaw out.

It was originally intended that the technical examination should be made immediately after the cars checked in for the last time, but it was deemed advisable at the last minute, to wait until daylight. Upon the unanimous consent of all contestants, the clutch, brake and transmission tests, which were to have been made at the close, were eliminated. Distinguished talent was arrayed for the examination of the cars in Charles M. Allen, D. L. Gallup, and J. C. Harvey—all from the Worcester Polytechnic Institute.



C. S. CARRIS, FRANKLIN



B. E. ROBINSON, RAMBLER

Chattanooga Man Agitating for a Race.

Having heard such glowing tales of the success of the Grand Prize race at Savannah, Randolph M. Rose, a citizen of Chattanooga, Tenn., is highly enthusiastic about holding an automobile race in his own city and expects to promote one. He is confident that a much better course can be built around Chattanooga and believes that a big road contest can be gotten up that will equal, if not eclipse Savannah in importance. While a race of these dimensions would be quite an undertaking, there are numerous citizens of Chattanooga who join Rose in his enthusiasm.

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TAME CIRCUS AT TANFORAN PARK

Seyfried Makes Oldfield-Christie-Soules Troupe "Look Like Thirty Cents"—But Barney Wins Sweepstakes.

A crowd estimated at 10,000 persons swarmed to Tanforan Park, San Francisco, Cal., on Sunday, 6th inst., to see an automobile race meet in which sensations and thrills were expected in abundance and was compelled to witness one of the tamest, milk-and-water style of automobile meets ever held in the country. The affair was held under the auspices of the Automobile Dealers Association and proved to be a futile attempt composed chiefly of circus acts and "exhibition" events, the element of competition lacking throughout. There were few entries to begin with and for this reason, half of the proposed program was omitted. Of the crowds that packed the grandstand and paddock at the start, fully half went away early, disgusted with the meet and the management.

Apparently the trackfest was held for the benefit of that trio, Oldfield, Christie and Soules, whose performances were to constitute the features of the day. When E. A. Moross, manager of this outfit went to San Francisco some days before the race to arrange his entries, he wanted to have a sweepstakes event gotten up for a $2,000 purse and have the event open only to the hippodrome company mentioned above. This would guarantee good sport, he assured the promoters, for there would be the keenest competition between Oldfield, Christie and Soules to gain that $2,000. No outside entries would be needed to make the race a crackerjack. But some of the local dealers could not see things this way. Some of them had doubtless been studying the adventures of the "Noble Three" during the past few weeks, and the San Franciscans who have a few speedy cars of their own, refused to let Moross have his way. After a couple of dealers who desired to enter cars in this event told the "Noble Three" that they were circus performers, Oldfield agreed to let C. A. Hawkins enter a White steamer, and Frank Free a Comet.

While it was the misfortune of the White entry to catch fire in the sweepstakes, Oldfield may have wished that the car had burned up altogether, for it caused him to "sing small," when, with Gus Seyfried at the wheel, it covered a mile in 59 seconds flat, while the best that Oldfield could do was 1:03. Seyfried's time was the fastest ever made on that track, and beat the former record of Oldfield considerably.

The opening event, scheduled as a five miles contest for cars costing $2,000 and under, saw only one starter, a White steamer. The second event, for the $4,000 class, was also a case of "all White"; two cars of that make being entered, and a single Buick the only other competitor. Don Whalley drove the winning steamer 3 miles in 3:24, while Seyfried in the other White was second.

Then came four not over exciting exhibition events, during which Seyfried made his 0:59 mark. The best Free and Soules could do was 1:05, and the annoyed Oldfield, 1:03, as before stated. The Christie car, with G. H. Hughes at the wheel, cracked a cylinder and could make no showing in the contest.

In the sweepstakes, Oldfield hesitated about meeting Seyfried in a preliminary heat, so he made Moross stack him and his six-cylinder car up against Free in the little Comet, and, of course, Oldfield took the heat. When Soules and Seyfried went at their trial, Seyfried's pilot light went wrong and flames caused him to drop out. That left the final 5 miles heat to Soules and Oldfield, with the usual result. Soules, as a matter of course, let the star win by a good safe margin in 5:21.

What promised to be a good brush between J. Seeley in a Peerless and a Packard car, fell flat, when the latter withdrew in the third mile. The only semblance of excitement was furnished in the final 5 miles handicap. Moross was the handicapper and some of the contestants did not like his system, Hawkins withdrawing his White and claiming that he did not receive a fair start. Two Comets, driven respectively by Earl Cooper (45 sec.) and Frank Free (10 sec.); Frank Murray in a Buick (60 sec.), and a Stearns, fought the race out, Cooper winning in 6:20, with Free second. Then what was left of the crowd trailed homeward, sighing for the days of old when horses used to gallop around that dusty track, in real contests.

The summaries:

Three miles, stock cars costing $4,000 or less (stripped)—Won by Don Whalley, White steamer; second, Gus Seyfried, White; third, Frank Murray. Time, 3:24.

Exhibition mile by Frank Free, Comet Time, 1:05.

Exhibition mile by Charles Soules, Stearns. Time, 1:05.

Exhibition mile by Gus Seyfried, White Flyer. Time, 0:59.

Exhibition mile by Barney Oldfield, 6 cylinder Stearns. Time, 1:03.

"Sweepstakes" event—First heat, 3 miles, won by Oldfield; second, Frank Free, Comet. Time, 3:05⅘.

Second heat, 5 miles—Won by Charles Soules; Seyfried, White Flyer, did not finish. Time, 5:26.

Final heat, 5 miles—Won by Oldfield; second, Soules. Time, 5:21.

Three miles, fully equipped touring cars—Won by G. H. Seeley, Peerless. George Hoff, Packard, did not finish.

Five miles, free-for-all handicap—Won by E. P. Cooper, Comet (45 sec.); second, Frank Free, Comet (10 sec.); third, Frank Murphy (60 sec.); fourth, Charles Soules (scratch). Time, 6:20.

MAY BOYCOTT THE GRAND PRIX

Reported Agreement of Prominent Foreign Makers Not to Enter the Contest—Surmises Concerning the Reason.

Though the Paris Salon is proving practically barren of sensations in the mechanical sense, it has brought forth one announcement which is sufficient in itself to cause the promoters and patrons of the great foreign racing events to catch their breaths in dismay. Directly after the opening of the Salon it was announced that no less than eleven manufacturers of prominence had signed an agreement boycotting the Grand Prix race of 1909. Of these, seven are French, two German and two Italian. While no cause has as yet been assigned for this alleged action, it is suggested that with the restrictions already decided upon for the forthcoming contest, that is to say, a reduction of the bore limit to 130 millimeters, the feeling is that the results of entering would not justify the expense, or, in other words, that without the possibility of using huge engines, the foreign builders hesitate about trying their strength in a competition with the manufacturers of the world at large, the results of which would be so universally studied.

The names connected with the announcement were those of the Panhard, Renault, Peugeot, Lorraine-De Dietrich, Bayard-Clement, Brasier and Darracq makers of France; Mercedes and Benz, of Germany; and Itala and Fiat, of Italy. While in some quarters it was stated that all of these firms had agreed to withhold their support of the 1909 Grand Prix, it was affirmed elsewhere that only five of the above named had actually signed the agreement. Furthermore, as some of those connected with the firms in question were active in framing the new racing rules, and as the typical European fickleness has before given rise to such announcements as that some of these firms were not going to exhibit at the Salon, which afterward were ignored completely, the seriousness of the situation is regarded as being somewhat tempered. It is, however, another instance of the wavering condition of the European industry at the present time.

New Year's Run for Ford Owners.

Following the custom of two previous winters, the Chicago branch of the Ford company will hold a New Year's Day run over the Chicago-Elgin-Aurora course. While this run has been for Ford owners exclusively in the past, this year members of the Chicago Automobile Club will be invited to join in the outing regardless of what make of cars they drive. At 10 p. m. on December 31, a dinner of the entrants will take place at the C. A. C. club house and promptly on the stroke of twelve, the motors will be cranked and the cars will start westward on their first run for the year 1909.

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BEAUDETTE BAGS MOST HONORS

He Makes Fastest Time at Los Angeles Hill Climb and Captures Three Events—Dingley Twice a Winner.

Preceding a cloud of angry steam, T. J. Beaudette mounted in a Stanley car, shot up the mile course with its 18 per cent. grade at Riverside, Cal., on Saturday, 5th inst., and made the fastest time at the annual hill climb of the Los Angeles Automobile Dealers Association. He covered the distance in 1:12, which was better than any of the gasolene machines could do, Bert Dingley being the nearest competitor with a Chalmers-Detroit in 1:20. Everybody expected Beaudette, who had the only steam car, to win and the real contest was between the other drivers. Owing to a scarcity of entries, and particularly those of high-powered cars, a considerable portion of the program was omitted. This was due largely to the fact that the contest was postponed from Thanksgiving Day, the originally scheduled date and interest in the event was somewhat lacking. Two thousand or more spectators turned out to watch the sport and had an opportunity to see one or two thrills at the turn about the middle of the course alarmingly known as "Death Dip."

In the gasolene class, Bert Dingley, with the Chalmers-Detroit, and Frank Siefert at the wheel of a Stoddard-Dayton, were the favorites, and the interest of the spectators centered chiefly in this pair. When they got ready to fight things out in the $2,000-$3,000 class, Siefert tore up the hill at a hot pace and when the timers announced 1:22⅗, which was better than the earlier performance of the steamer, the Stoddard-Dayton rooters went wild with joy. This exuberance of spirits, however, was short-lived, for Dingley got his motor firing and plunged up the elevation to the tune of 1:20⅕, taking a long, dangerous chance in not throttling down ot the turn. Then the crowd applauded Dingley. In this event, C. A. Cowan was third with his Rambler in 1:38.

Dingley and Siefert went at it again in the free-for-all roadster event, Dingley winning for the second time in 1:20⅗, slightly slower than his first trial. Siefert got second place in 1:22⅖, one-fifth of a second better than his first attempt. Cowan got third place, with L. B. Harvey fourth.

Of the lighter gasolene cars, the best showing was made by George Kussman with a 22 horsepower Tourist in the $1,500 and $2,000 events, both of which were won by Beaudette with his steamer. In the former, Kussman's time was 1:48⅗ against the steamer's 1:24⅕, and in the latter the Tourist covered the distance in 1:42⅖, as opposed to Burdette's 1:12—the fastest of the day. L. B. Harvey was third in this with a Rambler in 1:50.

William Foberth captured the $2,500-$3,000 touring car event, in which each contestant had to carry a load of five passengers. He made the ascent in the good time of 1:25, Beaudette's Stanley steamer breaking down and failing to finish. The latter, however, made off with the event confined to the fastest cars in each of the other events, Siefert scoring second with the Stoddard-Dayton, and Dingley third, with the Chalmers.

The summaries:

Touring cars, $1,000 to $1,500, four passengers—Won by T. F. Beaudette, Stanley steamer; time 1:24⅕; second, George Kussman, Tourist, 1:48⅗.

Roadsters, $1,000 to $2,000, two passengers—Won by T. F. Beaudette, Stanley steamer, 1:12; second, Kussman, Tourist, 1:42⅖; third, L. B. Harvey, Rambler, 1:22⅗.

Roadsters, $2,000 to $3,000—Won by Bert Dingley, Chalmers-Detroit, 1:20⅕; second, Frank Siefert, Stoddard-Dayton, 1:22⅗; third, C. A. Cowan, Rambler, 1:38.

Roadsters, free-for-all—Won by Dingley, 1:20⅗; second, Siefert, 1:22⅖; third, Cowan, Rambler, 1:33; fourth Harvey, Rambler, 1:46⅖.

One mile exhibition, by T. F. Beaudette, Stanley steamer. Time, 1:18⅖.

Touring cars, $2,500 to $3,000, five passengers—Won by William Foberth, 1:25.

Special event for fastest cars in preceding events—Won by Beaudette, 1:18; second, Siefert, 1:22⅖; third, Dingley, 1:24⅕.

Los Angeles Cards a 24 Hours Race.

Following the consummation of the deal to turn Ascot Park, Los Angeles, Cal., into a motor racing track exclusively, comes the announcement that provided the course can be put into proper condition by the latter part of this month, a 24 hours race will be the opening event of the new autodrome, starting New Year's eve. The contest will be held under the auspices of the Automobile Dealers Association, the organization that expects to have direct charge of all future speed contests at this course. It is planned to make a cement track of the old horse track ultimately, but for the New Year's Day affair, merely the turns at each end will be banked with concrete to permit high speed.

Providence Talks of a Motordrome.

Plans are under way to build another cement motordrome. Narragansett Park, Providence, R. I., will shortly be transformed from a horse track, into a banked course for the exclusive use of automobiles, if the arrangements of the corporation which now owns the track do not fall through. Frederick E. Perkins, president, and Albert H. Moore, secretary, want to spend $50,000 on the venture and bank the turns to a height of 25 feet, believing that if such a course could be made safe for speed contests, the enterprise would prove a paying one. The fact that horse racing is practically barred in Rhode Island by law, has led the park owners to favor the idea.

PRESENTATION OF THE GRAND PRIZE

The Golden Trophy Formally Handed Over and Accepted—Mayor Tiedeman, of Savannah, Assists in Ceremonies.

More than two hundred members and guests of the Automobile Club of America waited patiently for several hours on Tuesday evening last, for the arrival of Judge E. H. Gary, president of the club, who was to present the grand prize to the representative of the Fiat Automobile Co., whose car, driven by Louis Wagner, won the Grand Prize race at Savannah on Thanksgiving Day. But the Judge failed to appear and Robert Lee Morrell, chairman of the contest committee did the honors. In beginning his presentation speech, Mr. Morrell was modest and did not want to mount the platform, but the guests insisted upon it, that they might get a good view of him, and after making a few remarks about the race, praising the people of Savannah and those connected with the southern club who helped make the affair a grand success and likewise praising E. R. Hollander, of the Fiat Company, the speaker presented the trophy. Mr. Hollander, who accepted it in behalf of the company he represented, expressed his thanks amid loud applause.

Among the guests were Mayor Tiedeman, of Savannah; Frank C. Battey, president of the Savannah Automobile Club; Harvey Granger, W. B. Stillwell and William Lattimore, who made the trip from Georgia especially for the occasion, all of whom made addresses. Stereopticon views and moving pictures of the race were shown.

Planning a New York to Seattle Race.

Officials of the Alaska-Yukon-Pacific exposition, to be held at Seattle, Wash., next year, have commenced to agitate a transcontinental race for next summer. Application has been made to Robert Guggenheim, of New York, to use his efforts as a director of the Automobile Club of America, to stir interest in a race from New York to Seattle. Guggenheim, who was interested in the Elkwood Park meet July 4th last, is said to have expressed his willingness to comply with the request, and has announced that he will enter an American car should such a contest materialize. He has even gone as far as to say that the race will be promoted by Thomas Francis Moore,—who disclaims all knowledge of it—and that Wm. K. Vanderbilt, Jr., will act as official starter.

Motoring Grows Popular in Monterey.

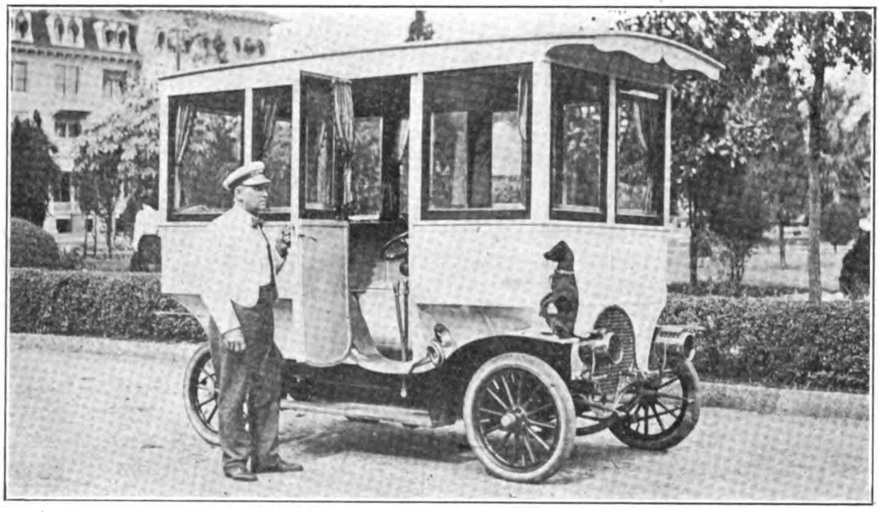
With gasolene selling at $4.20 for a five-gallon can in their city, the residents of Monterey, Mexico, would hardly be expected to be enthusiastic in taking up motoring, but despite this drawback the number of owners is constantly increasing.

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HIS CAR A HOME AND WORKSHOP

Razor Man Lives, Toils and Travels on "The Sharp Edge"—That is What He Calls His Novel Vehicle.

Combination three-in-one folding bed, bath-tub and piano contraptions have been placed on the market by house furnishing manufacturers occasionally during the last decade, but one of the most interesting "combination" outfits ever built is that of N. H. La Grand, of Jacksonville, Fla., who has a modern adaptation of the house car principle that is about equivalent to a residence and office building on wheels. Working on the theory that it is "cheaper to move than pay rent," La Grand has made of his car a place of business and temporary abode, and he explains that within a few seconds he can change it successively into a working car, a dining car, a sleeping and a touring car.



RAZOR MAN AND HIS HOME, "THE SHARP EDGE"

Taking a Franklin chassis, La Grand built upon it a car body suited to his purposes, doing the work himself and spending upon it half of his time each day for 15 months. Completed, the vehicle weighs only 2,300 pounds, and the cost has been $3,664.98. A general idea of the car's appearance is given by the accompanying illustration, showing the man and his novel home.

In constructing this vehicle, La Grand did not confine himself to conventional design in the least. As will be noticed, the body is made to run the full length of the chassis, while it also overhangs to the full width of the tread. It carries large convenient lockers and a refrigerator and the interior decoration with its maple and mahogany finish has something of the effect of a Pullman sleeper. The windows are of beveled plate glass, the curtains of green silk. It is fitted with electric lights throughout and is a most up-to-date piece of craftsmanship. The designer, who is in the razor business, calls his car "The Sharp Edge," which he thinks is a most appropriate title.

Motor Car Delivery for Detroit Suburbs.

Two Wyandotte (Mich.) men have embarked upon an enterprise to run a suburban motor car service between Detroit and towns as for north as Trenton, the idea being to cater to the trade of merchants along the line. When the plan gets into smooth running order, it is the intention of the promoters to have three fast motor car deliveries daily, carrying goods from the concern's depot in Detroit direct to the door of retail business men. The advantageous feature of the line will be that dealers in the various towns can get rush orders delivered with great promptness, by telephoning for same to Detroit. One car has already been ordered and the company will probably start the business in operation about January 1.

Automobile Doubles Stage Line Traffic.

In view of the fact that Rhodes Bros., of Paoli, Ky., believe an automobile can do twice the work of several horses, they have made application to the authorities to change the schedule of their stage line betwen Paoli and New Albany,, Ky., so that a round trip can be made daily between the two places, instead of the present single trip. They intend to discontinue the use of horses and instal a motor car and also to establish another motor line between New Albany and Corydon, a distance of 20 miles, making two trips a day.

Taxi Service Profitable in Boston.

The Taxi Service Co., of Boston, Mass., is so pleased with the prospects of the taximeter cab business in the Hub that it has increased its capitalization. The increase is from $120,000 to $350,000, and precedes the issuance of $40,000 additional common stock and $190,000 preferred.

ANOTHER CLAIM TO PIONEERSHIP

Boston Bobs up with Elijah Ware's Steam Automobile, Produced in 1861—Its Construction and Achievements.

One more has been added to the already large family of those who claim to be the original inventors of the motor car. Inventors of this sort are about as numerous as the many surviving members of the "original Florodora sextette." It has just been recalled that Elijah Ware, of Boston, Mass., a well known railroad construction engineer in his time, invented a steam automobile as early as 1861 and ran it on the streets of Boston.

According to persons who recall it, the car ran remarkably well for such an early attempt and the fact that at one time Elijah used to race his invention against race horses on the old plank road near Bayonne, N. J., where he lived for a while, is evidence that he must have been able to cover some little distance at creditable speed. It was while he was in charge of the temporary repair shop for steam shovels in Boston, during the filling-in of the Back Bay, that Ware decided he wanted a horseless carriage and constructed a clumsy four-wheeled affair, with a vertical boiler and oscillating engine of small horsepower. The car was steered with a wheel and steering post, and the ordinary carriage shoes acting on the solid tires answered the purpose of brakes. The car ultimately was sold for $300 to a clergyman who lived in Prince Edward Island, who is said to have become quite an automobile enthusiast.

Schools for Military Motor Car Drivers.

Schools for motor car drivers recently have been organized by the Spanish military authorities in connection with several regiments, with the object of developing a corps of skilled operators who are members of the military. The schools are said to be well equipped in the way of machine tools and other facilities necessary to the performance of extended repairs and are conducted under the auspices of the Central Electrical School. A corps of motor volunteers also has been organized by the Spanish Royal Automobile Club.

Newark Club Planning a Metallic Garage.

The New Jersey Automobile and Motor Club is considering the plan of building a metal garage in Newark, N. J., in place of the half-completed frame one, upon which work was stopped recently. The original scheme of constructing a wooden garage was carried forward enthusiastically until the Bureau of Combustibles and Fire Risks announced that it would not permit the storage of automobiles in such a building in a congested part of the city. That put a stop to the proceedings.

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PROBLEMS OF AUTOMOBILE REPAIR

How They Trouble the Carriage Maker Who Undertakes the Work—One of Them Specifies the Difficulties.

That it is practically impossible to forecast the amount of expenditure which will incident to the upkeep of a commercial car, that it cannot even be run along strictly "business lines," is the deduction which an exponent of the carriage trade makes on the basis of current practice. That these unhappy conditions are likely to be ameliorated in process of time, he does not acknowledge in his treatment of the problem of motor car repairing as presented to the carriage builder. Another of the drawbacks of the automobile business in its present stages which he touches upon with some little melancholy is the commission evil. In this connection, he points out that the "regular 'auto' repairers allow this amount (5 to 10 per cent.)" by adding it to the owner's bill, and so long as the owners are willing to stand for the imposition, he fails to see why the carriage men should hesitate to fall in line. Discussing the matter further, he says:

"Since the advent of the automobile for pleasure driving and business purposes, also since the introduction of the commercial truck into the every-day business sphere for transportation, many very unsatisfactory features have been connected with the various repairs of cars and trucks. The diversity of the work and the different problems which present themselves almost on every job to be repaired has been one of the most difficult problems to solve in the repair departments of the various carriage and wagon shops.

"That they cannot be run on strictly business lines, and that their real cost of repair cannot be calculated in advance, as is done with other well tried work, is an insurmountable drawback to the carriage and wagon builders and their customers. In the first place the automobile user will not and cannot wait as long as demanded by the repairer. On the other hand, the carriage and wagon builders having been connected with new work and its repair, and their long association with this business where the carriage or wagon is left in the shop as a matter of course as long as needed, for a thorough repair, has malfitted them for automobile work which must be done quickly, and for which the regular automobile repairer is better fitted to do such work, because he is taking advantage of minor details, which saves time and money, and which the carriage and wagon builder has not yet acquired.

"Beyond question the repair of horseless carriages and truck work, also the repair of the machines, is of the most importance to the carriage and wagon builders. It is a real question of merit to pay considerable attention to this part of the business as a source of revenue. It is of a profitable nature, and when operated and managed on business principles in connection with the wants and the necessary condition of the present times, repairing the horseless carriages, wagons and trucks as an adjunct to the other departments, if managed properly, is profitable. The other question, "how much is in it?" for the chauffeur when running up to the carriage repair shop can be best solved by adding a certain percentage to the repair item, which, of course, the owner must pay as long as he allows his chauffeur to exact a certain percentage on the cost of repair to go in his pocket. This one question has been a source of dissatisfaction, and many carriage and wagon builders will not stoop to such practices, and have lost a great deal of repair work which would have been theirs had they allowed 5 or 10 per cent. of its cost to the chauffeur to keep in good relation with him. The regular automobile repairers allow this amount, and as they do the work in almost half the time that the carriage and wagon builders require, the excuse is the short time it can be done, is one of the best possible reasons why the repairers are doing the work, and all are busy, while the carriage and wagon builders are waiting for something else to turn up in their shops since the introduction of the horseless vehicles.

"The repairers, who are generally agents of several automobile manufacturers, of course take considerable pains to hold the patronage of all automobile owners who come along, or who have their machines stored at their garages. It is a matter of business on the part of the repairer and garage owner who has one or several good machines which he handles, sells and repairs, to keep in close touch with the owners. By this means the owners of the automobile, being one of the ones he sells, and with which the mechanics in the repair shops are thoroughly familiar, are well fitted for the repair of the machines, which puts the carriage and wagon builders greatly to a disadvantage unles they hire a competent mechanic to do this work; but the carriage and wagon builders again have the advantage over the repairer by doing the repair body work, painting and trimming far more thoroughly and of a far more satisfactory nature than the repairer can. He has not the facilities nor, generally speaking, the experienced mechanics, which the carriage and wagon builders have and need to do the new work.

"The result of this is, if the repair work is handled with sufficient tact and business enterprise, all these shortcomings above related to can be bridged over satisfactorily. The repair work in automobile bodies has been extensive and of almost infinite variety. The bodies have been lengthened, cut in half, and another seat added, replaced with any variety of tops with which the carriage mechanic is thoroughly familiar."

AUTOMOBILES SAVE FOR FARMERS

Colorado Agriculturist Shows by Figures Their Economical Value—More Efficient and Cheaper than Horses.

What economy results from keeping an automobile instead of a team of horses on a country estate is given in a demonstration by figures prepared by T. H. Proske, whose home is near Denver, Col. Some time ago he decided that as a substitute for the family carriage, used chiefly between farm and city, he would thoroughly test the motor car. The test he made a matter of bookkeeping. Buying his automobile, he made a record of its upkeep for about 18 months. This record, with the original cost of the vehicle, is as follows:

One set of tires	$130.00
Less credit for old one taken in exchange	35.00
	$95.00
One overhauling and varnishing	35.00
Average cost of gasoline, oil and batteries per month, $12—18 months	216.00
Original cost of motor car	3,040.00
Total	$3,386.00

This is based on a daily average travel of 35 miles, running with his 28 horsepower Franklin. Later he decided to buy a 42 horsepower machine of the same make. He finally sold the original car at the end of the 18 months for $2,250, thus bringing the net cost down to $1,136, or a little more than 5 cents for every mile traveled.

Satisfied that the original cost of horses and carriages to do the same amount of travel would exceed the original cost of the automobile, Proske figures the upkeep for horses and coachman as follows:

Feed for two horses, per month $35—18 months	$630.00
Coachman, boarding himself, per months, $75—18 months	1,350.00
Total	$1,980.00

"This," he remarks, "is not making any allowance for repairs to carriages or depreciation or possible death of horses. It will be seen from this that even if there was no sickness or death of horses and no depreciation in equipment I am still $844 ahead on the deal." This result is reached by deducting from the $1,980, which maintenance of a carriage would cost, the $1,136 which the automobile actually cost for 18 months. Incidentally the second experiment developed the fact that the upkeep cost of the second and larger car exceeded that of the first by not more than 10 per cent.

Another Ajax Girl Appears.

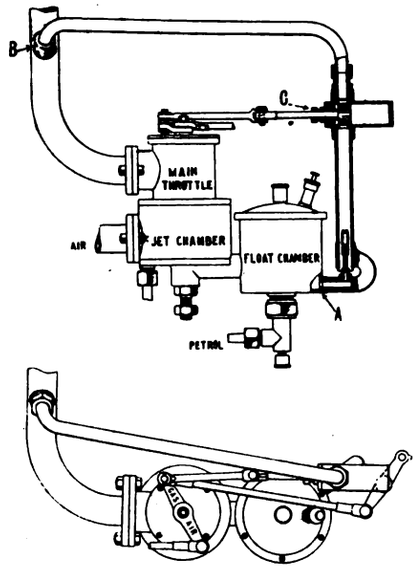
Another "Ajax" girl has made her debut, quite as beautiful as her predecessors. She is fathered by the Ajax-Grieb Rubber Co., of New York, and is a herald of the 1909 season for Ajax tires.

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NEW DEPARTURE IN CARBURETTERS

"Pilotjet" Affords the Advantages of Multiple Jet Type—The Device Attachable to Any Existing Design.

So much difficulty has been found in securing a method of carburetter regulation which shall permit of equally good results regardless of whether the motor is running slow or fast under load, or slow or fast without load, that many designers have had recourse to the simple expedient of duplication, so to speak, or in other words, to the adoption of the multiple jet type of carburetter, in which the several distinct-



ive conditions of service are catered to independently. So great have been the benefits derived in this way that a firm of British manufacturers, Messrs. W. H. Bailey & Co., Ltd., Albion Works, Salford, have devised a system for modifying the ordinary type of single jet carburetter by the addition of a secondary jet and mixer system which under suitable throttle control may be brought into action to supplement the work of the main jet at times when its natural characteristics fail to yield the desired service to the motor.

As will be noted from the accompanying plan and elevation outlines of the device, it is simple, readily attached, and in no way different in principle from the ordinary simple types of single jet carburetter. The arrangement is known as the "Pilotjet," and may be fitted to many present types of carburetter by simply tapping the intake manifold for one connection and the float chamber for another, the mechanism of control being even more readily attached. The resulting contrivance is a complete dual carburetter with the smaller of the two jets intended to serve only for slow and light load running.

In the accompanying illustration it is shown attached to a carburetter of the Longuemere type. The connection made at A, with the float chamber, serves as the fuel supply to a small jet located at the base of a small, straight, mixing tube, with a fixed air inlet. This tube leads directly to the main intake manifold connection, at B, and obviously serves to by-pass that leader when the main throttle is closed. When running under full throttle opening, however, the by-pass arrangement is cut out to afford the benefit of full suction to the main jet. To permit this, and also to allow for uniform gradations of speed and power from the idle-running to the full load, full speed, conditions, a piston throttle, C, is provided in the by-pass tube itself, and is interconnected with the main system of throttle control by the simple leverage and linkage shown. Additional permanent regulation also is permitted the auxiliary throttle so that when the main throttle is closed, it will stand at a point which will just permit the engine to turn over smoothly without gagging or missing explosions.

The design of the arrangement has been so carefully carried out that it is claimed the engine may be jumped directly from the slow, idle condition to full speed without staggering or missing, while the ordinary conditions of road running are in no way affected by the additional mechanism. The most commendable feature of the system, it would appear, is that it is available to the owner of a car equipped with a faulty carburetter, who does not care to go to the expense and risk of trying various new carburetters supposed to remedy the difficulties and who yet is desirous of bettering the ordinary performance of the motor.

Long Road Trip to Test Tires.

In order to make various tire tests on a long road trip, which would not be possible in or about a factory, and equipped with instruments for studying the temperatures created in tires at various speeds ranging from 25 to 60 miles per hour, as well as other technical points, Joseph M. Gilbert and James Patterson of the Continental Caoutchouc Co., started on a trip from New York City to Buffalo and return, on Saturday, December 12, in a specially equipped car fitted with their tires.

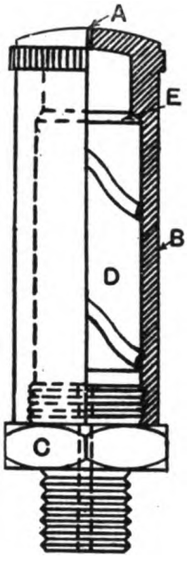
In addition to heat data, an effort will be made to ascertain the expansion of tires under service over a route of 1,000 miles, and also to determine the amount of air lost from tires through road contact. It is a well known fact that while a tire may look all right to the eye under certain circumstances, it may be shy some 25 pounds of air pressure, owing to the loss of vitality of the air. The trip will doubtless afford ample opportunity for the study of technical weaknesses of tires by the investigators.

That the 1909 Franklin engine is capable of delivering at the rear wheels 93 per cent. of its developed power, is claimed by its makers. This has been demonstrated by a series of tests made at the Syracuse factory.

JET WITH A ROTARY PLUNGER

Peculiar Adaptation of the Whirling Spray Idea to the Atomization of Fuel—Construction of the Appliance.

Unlimited schemes have been advanced for the improvement of the ordinary type of carburetter, as well as for the development of types depending on principles which are wholly or partially new. In this connection, no little stress has been laid on the performance of the common form of plain jet, which, it is fully admitted, does not always yield the direct and readily responsive



flow which is required. Another failing of the plain jet is that if large enough to furnish a full delivery to the motor when full load and speed conditions obtain, it tends when subjected to conditions of lower speed and lighter load, to yield a spasmodic or "lumpy" flow of fuel. To remedy this, a recent British invention has been introduced which follows the analogy of the mixing wheel or vaporizer which has been applied more than once to mixing chamber construction.

The detailed construction of the device is made plain by the picture in which A-C represents the body portion of the jet; E, a recess in its upper portion, and D, the rotry plunger, which, it may be observed, is capable of a slight longitudinal, as well as rotary motion. The jet opening to the mixing chamber is at A, in the center.

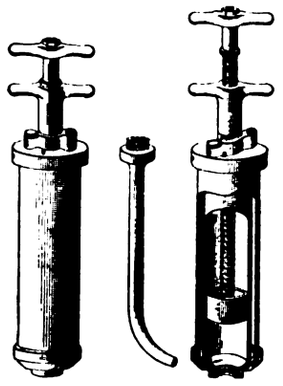
It is claimed by the makers, who are Messrs. S. de Beer, that several rather unexpected attributes are developed by the use of the jet. Not simply is the flow of fuel so well regulated that smooth running qualities otherwise undeveloped may be secured, but that the power and rate of acceleration is considerably improved, while the amount of fuel consumed per horsepower output at the fly wheel also is noticeably reduced.

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NOVELTY IN GREASE GUN DESIGN

The "Tuckahoe" Distinguished by a Cylinder within a Cylinder—Charging Requires Only Three Motions.

However effective it may be in other respects, and however well made and nicely polished, the average grease gun is a dirty thing to handle, because it is practically impossible to fill it without soiling the hands. That this operation also is sometimes accompanied by the mixing of small amounts of grit with the lubricant is an even more valid objection. In the new "Tuckahoe" grease gun both of these objections are eliminated by the adaptation of



a principle suggestive of that of the familiar "students lamp." In other words, there are two concentric cylinders, the outer of which serves merely as a retaining shell which may be kept clean at all times, and which never is inserted in the grease pot. The inner cylinder, in which the piston slides, is removable from the body of the device, and may then be plunged bodily into the grease.

When this is done it is completely filled at a single operation, and may be at once replaced in the outer cylinder, when the device is ready for use. The outer and inner parts, the former carrying the nozzle and the latter the working cylinder, are secured together by a screw attachment which is released by giving the handles a third of a turn. The plunger stem is threaded and engages a nut latch at the top thereby providing ample power for discharging even a very stiff compound through the nozzle. By releasing the latch, the plunger may be moved freely in the cylinder, this being useful in filling the receptacle, or in handling oils. As the gun is designed for use with either oil or grease, two separate nozzles of different size are provided. The device has just been put on the market by the Rubly Mfg. Co., Tuckahoe, N. Y.

Safeguarding Car in Hill Stops.

Cautious drivers who are forced to stop their cars on a sloping or hilly bit of road will do well to leave them standing with the front wheels slightly "cramped" so that should the machine be started with no guiding hand at the wheel, its course would be checked almost at once by the curbing or gutter. Although the ordinary forms of emergency brake are adequate to hold the machine under all ordinary circumstances there is considerable danger of their being released suddenly and even without outside interference when the teeth of the ratchet are worn, while there always is the peril of the inquisitive bystander who is overwhelmed with a desire to pull a lever or two in that meddlesome spirit which afflicts so many people in the streets.

New Series of Timken Bearings.

One of the possible objections to the use of tapered roller bearings in the past has been the overall length of bearing space necessary to get in the required size of roller. This feature has now been eliminated in a new series of short bearings which is being marketed by the Timken Roller Bearing Axle Co., Canton, Ohio., which are exactly the same in principle and detail of construction as the former types, except in such features as affect the total length, which alone have been modified to suit the requirement. Consequently these new bearings are adapted to parts which heretofore could not be adapted to their use.

Besides containing all the improvements which are embodied in the other latest types of Timken bearing they are made from the best grade of steel, carbonized and heat treated, and finally ground to size with a tollerance of only 0.0005 inch, on the mid-point diameter. The fundamental characteristic of ribs on the cone, of course, is retained. The space required for the new bearing is only 1 1-32 inch in the smallest sizes, and but 1 9-16 inch in the largest. This decrease in length, coupled with the use of a relatively small diameter of cup, greatly enlarges the possible application of the bearing. As in the larger sizes, the rollers are retained by the new type of pressed steel, one-piece cage, which is advantageous in reducing the number of parts in the bearing, as well as in affording better opportunities in the way of lubrication.

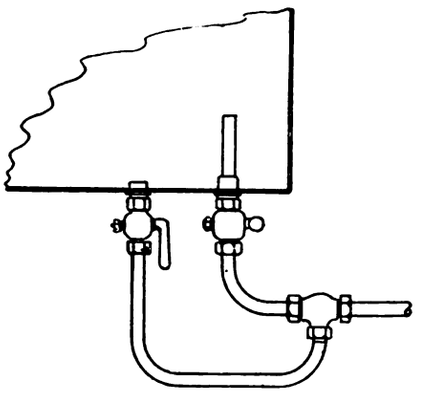
Keeping Emergency Brake in Shape.

Particular care should be taken on cars which have seen considerable use, to make sure that the teeth on the ratchet of the emergency brake are not worn dangerously low. Where this is the case, there is great likelihood that the lever will "jump" when the motor is started, sometimes greatly endangering the machine. Whatever wear occurs is most apt to be on the outer teeth which are engaged when the lever is in the full "on" position, and as this is the most critical section of the segment it should be reshaped to its original profile just as soon as the ends of the teeth begin to show any signs of turning over or wearing down.

SUBSTITUTE FOR AUXILIARY TANK

Utilizing Lower Portion of Fuel Receptacle for Extra Storage—An Ingenious Method of Piping Employed.

Force of circumstances, when the fuel supply has become suddenly and unexpectedly exhausted has caused many a motorist to bemoan his fate; and to prevent such periods of despair and the long tramps over lonely roads while the car is left in a ditch, which so often follow, a number of manufacturers have taken to fitting their cars with one or another of the several systems of compartment tanks which give ample warning when the supply begins to run



short. That these contrivances are more complicated and extensive than the circumstances really demand, is proved by the accompanying sketch of an ingenious method of piping, which is adaptable to any fuel tank, and which involves in addition to the introduction of one extra T-fitting in the pipe line and a short additional length of piping, one additional opening in the tank.

The suggestion, which is made by a foreign correspondent, is in a word, merely that of utilizing a very small part of the lower portion of the tank as an extra fuel storage space, drawing the main supply through an outlet which is raised by three or four inches above the bottom under ordinary circumstances. Thus, the reduction of the supply to a point where the main feed pipe no longer affords fuel to the motor is signalized at once and unmistakably, while the additional fuel remaining may be utilized by merely opening the secondary outlet and closing the main one. The system is applicable to gravity or pressure systems.

Descriptive Name for Raybestos.

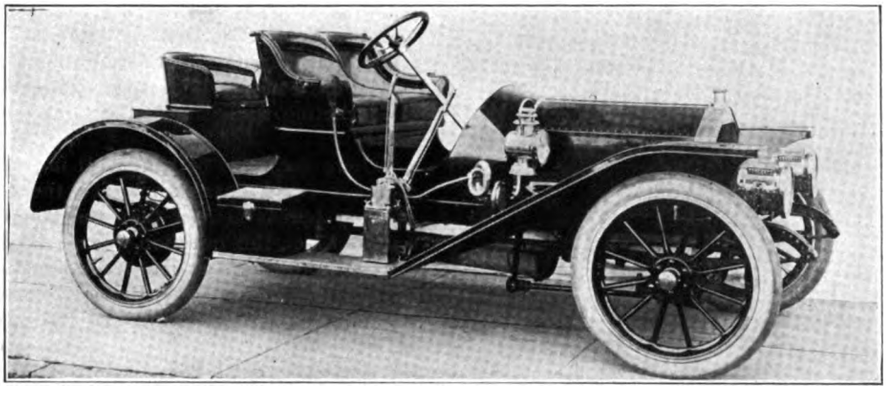
"Raybestos,' the asbestos-copper wire fabric which is being used so extensively by motor car makers just at present in lining the working faces of brakes, is to have a new and explanatory sub-title. Hereafter, as the Royal Equipment Co., its makers announce, it will be known as "Raybestos Friction Facing."

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TWO NEW PULLMANS FOR 1909

Line for the Coming Season Offers Wide Range of Choice in Design and Power —Specifications of New Models.

With two new models and two others brought up to date from their 1908 standing, the York Motor Car Co., Inc., York, Pa., is well fortified for the business of 1909. The models include in the way of chassis and horsepower, the Model "L," 20 horsepower, runabout; Model "K," 30 horsepower five-passenger light touring car; Model "6-30," high speed runabout; the Model "4-40," gentleman's roadster, and the Model "M," which is a 40 horsepower, seven-passenger touring car. Of these, the newcomers are the Model "K," and the Model "M." With these distinct models as a basis, however, a range of option in body construction is offered which makes possible to the purchaser choice from a line of practically ten different models, included among which is a neat little taximeter cab, mounted on a 20 horsepower chassis and possessing a number of qualifications all its own.



YORK PULLMAN MODEL "L," 4 CYL. 20 H. P. ROADSTER

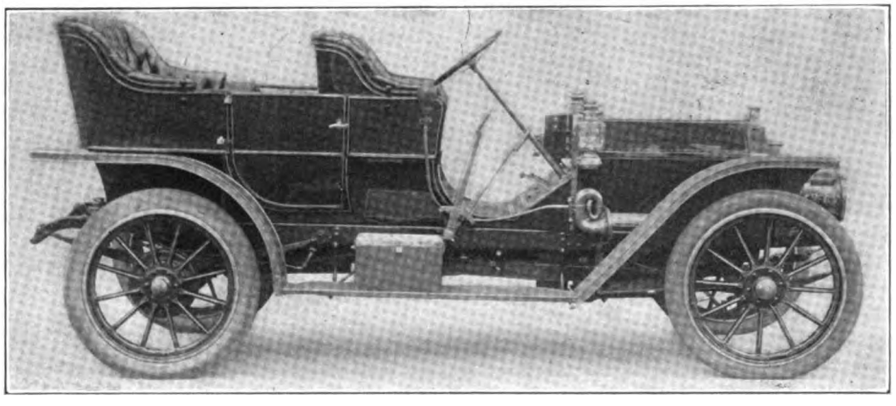
Model "K," is propelled by a vertical motor, four-cylinder, like all the Pullman motors with a single exception, and also in common with several of the other motors of its family of "squared" dimensions. The cylinders measure 4½ by 4½ inches. The cylinders are cast independently with heads and water jackets integral, and the valves, which are interchangeable, are located on opposite sides. Ignition is by jump spark with Bosch, high tension magneto, distributor, single coil and switch. Lubrication is by a system of integral distribution, newly developed, and so devised as to permit of regulation by valve adjustment to a positive oil level properly indicated. The speed range of the motor is from 150 to 1,800 revolutions per minute.

The master clutch is of the plain cone type, leather-faced and fitted with cork inserts. The change gear system is of the selective type affording three forward speeds. The gear shafts are mounted entirely on imported annular ball bearings, and the gearbox is of oil-tight construction, and designed to be packed with grease by way of providing for lubrication. The final drive is through a propeller shaft to the lixe axle which embodies a pressed steel housing, nickel steel shafts and gears, and the V-type of torsion rod. The front axle is of I-beam section, drop forged. Timken holler axle bearings are employed. The frame is of pressed steel with a substantial subframe carrying the entire power plant. The spring suspension is by semi-elliptic members at both ends of the chassis, the front ones being 40 inches long and those in the rear, 50. Both sets are 2 inches wide. The overall dimensions are: tires, 34 by 3½ inches; wheel base, 106 inches; tread, 56 inches; clearance, 10 inches, and weight somewhere in the neighborhood of 2,250 pounds.

In the second of the newcomers less difference from the current product of the company will be noticed. In fact, with a few comparatively slight changes, the car is much the same as already is produced. Of these alterations it may be noted that the wheel and tire sizes have been changed from the 1908 specifications to insure maximum comfort for general touring and now are 36 by 4 by 4½ inches. The frame and suspension construction is much the same in principle as is used on the Model "K," just described, except that the rear mounting of the chassis is reinforced by a semi-elliptic cross member shackled to the forward ends of the side springs. The gearset affords four forward speeds, instead of three, as in the former instance, and the direct drive connection is on the third instead of the fourth speed, the latter thus being "geared up" for sigh speed work under the occasionally excellent conditions found in ordinary touring. The drive and rear axle construction of this model is followed out in the same line as that of Model "K," including the floating system of mounting and the Timken bearings for the wheels.

The motor also is of regular Pullman design, having individually cast cylinders, of 5 by 5½ inches dimensions, and rated to develop 40 horsepower at 900 revolutions. As will be observed from the accompanying illustration of the chassis, the cylinder construction here perpetuates an original and rather peculiar system which has been employed on former models of these cars, in which the cylinders are cast with large core openings on the sides facing fore and aft of the chassis, the openings being flanged liberally and extended far enough so that the faces of adjoining cylinders may be bolted together—the effect thus secured being essentially that of the block casting, without the latter's drawback of high initial expense and high cost of replacement. The method secures for the cylinders a degree of rigidity which cannot be expected except in a battery of block cast cylinders, or those which are heavily braced together.

The Bosch ignition system is employed on this model, as is also the new oiling system. The clutch is leather faced, conical and fitted with cork inserts. The braking equipment is mounted entirely on the rear wheels, and is of the double, expanding-contracting type.



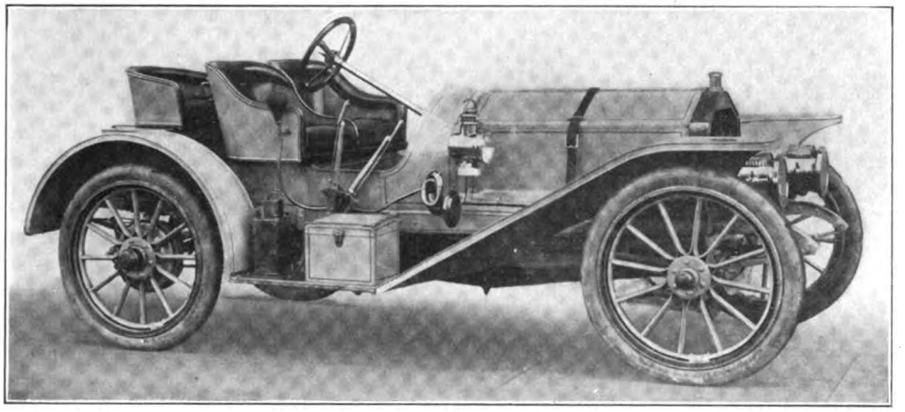
YORK PULLMAN 4 CYL. 30 H. P. MODEL "K"

To meet the demand for a high-powered runabout, the "4-40" model is continued over from the current line. In general its specifications are the same as for the Model "M," the chief difference between the two hinging about the construction of the body, and whatever minor alterations in the arrangement of the control mechanism may be involved.

The smallest car in the line, formerly known by its 20 horsepower rating, now is

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dignified by the letter "L," but otherwise remains practically unchanged either in status or mechanical formation. The slight process of alteration it has undergone has involved the adoption of the new oiling system, and the placing of the water pump alongside the magneto, where it is driven from the same shaft which actuates the ignition device. This model has 32-inch wheels all around, three speed, selective change gear, annular ball bearings for the entire transmission, shaft drive, 102-inch wheel base, 10½ inches clearance, and



YORK PULLMAN 6 CYLINDER, 30 H. P. LIGHT SPEED CAR

weighs somewhere about 1,750 pounds. It is put out in both runabout and "toy tonneau" forms.

The final member of the regularly catalogued line is the Model "6-30" light roadster, which is continued over into 1909, but under the inducement of a reduced price. Its motor is rated at 30 horsepower when turning at 1,000 revolutions per minute, though its speed range is said to run from 200 to 2,000 revolutions. The cylinder dimensions are 3⅛ by 3⅛ inches, and it has the opposite, interchangeable valve arrangement.

The taxicab specifications call for the 3¼ by 3¼ inch engine, mounted in the usual pressed steel frame with sub-frame transmission and engine mounting, slung on 40 by 48 inch semi-elliptical springs, front and rear, both sets being 2 inches in width; running on 32-inch wheels, shod with 4-inch tires and having 102 inches wheel base and 56 inches tread. The clearance of the vehicle is 10 inches, and the weight complete something like 2,250 pounds. The chassis throughout has the improvements which are newly embodied in the other models of the line, including the new method of oiling the engine and the use of the Bosch magneto and coil. The brakes, however, are applied to the transmission shaft and the rear wheels, respectively, the latter being of the expanding type and actuated by the foot pedal for service use. The emergency lever applies the transmission brake.

The body design is of the landaulet order, with folding top but without the hood extension over the driver's seat. The latter extends the full width of the vehicle and may be used for the accommodation of an extra passenger. The rear seat is placed well back of the rear axle which, as the radiator is brought flush with the forward axle, and the driver's seat located with an eye to ample foot room, gives a luxurious air to the vehicle which is frequently lacking in machines designed for commercial passenger service alone. The interior accommodations provide for four passengers and are designed with due regard to bodily comfort quite as much as to complete the styles of the vehicle. The vehicle is finished in dark blue, with upholstery also in blue.

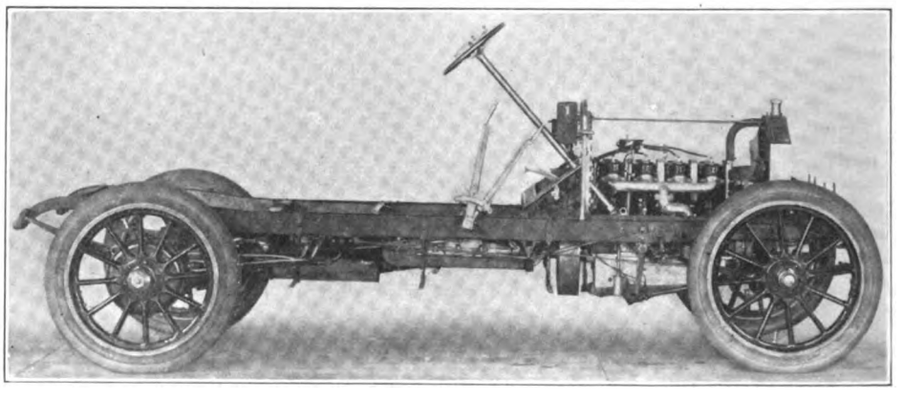
Advantages of the Thermo-Syphon.

"Even before the automobile became a factor in everyday life, when the intricacies of clutches and differentials were but indefinitely understood, engineers had largely solved the important problem of keeping the temperature of cylinders within working limits. Water cooling, that is by circulating water through specially designed chambers or "water jackets," has finally become the generally accepted type, but here designers disagree as to the best method of circulation," remarks J. D. Maxwell, of the Maxwell-Briscoe Motor Co.

"In 1901 and 1902, I made a series of experiments on both the pump and the gravity system, often referred to as the Thermo-Syphon system. As a result of these experiments, the thermo-syphon system has been a feature of Maxwell cars since 1904. Yet this system is not new; its earliest manifestation was the drawing up of water into the clouds by the sun.

"The advantages of the thermo-syphon system are several—the circulation is directly proportional to the heat developed and is independent of motor speed. In this respect, it differs materially from pump circulation, where the cooling effect is directly proportional to the speed of the engine. Secondly, unfailing reliability, since all mechanical devices such as the pump, gears and other connections, are eliminated. And lastly, the cooling effect is continued after the motor is stopped, until the cylinders and the jacketing water are of the same temperature.

"There seems to be a general impression that for equal horsepower, the thermo-syphon system is heavier than the pump system. In fact, this question was agitated last year in both the news and trade papers and at that time, the Maxwell-Briscoe Motor Co. submitted figures, showing that the amount of water carried in each case was pracically the same.



CHASSIS OF YORK PULLMAN 4 CYLINDER, 40 H. P. MODEL "M"

Internal Combustion Engineers Organize.

A new addition to the roster of engineering societies is the Internal Combustion Engineers Association, which has just been formed in Chicago, and which aspires to become a national, or even an international body. At present it has membership representation in the States of Ohio, Indiana, Illinois, Iowa, Wisconsin, Missouri and California. The association aims to advance in the broadest possible manner, the interests of internal combustion engineers, although it is neither a fraternal organization nor a union. In addition to assisting its members to obtain the most fitting positions and enable gas engine manufacturers to get more reliable and efficient service from their equipment, it will endeavor to develop greater uniformity of detail in design, material and workmanship among the various factories. The officers of the association are: President, H. R. Linn; vice-president, I. J. Bent; treasurer, I. J. Babcock, and secretary, Walter A. Sittig, all of Chicago.

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FEATURES OF THE PARIS SALON

What It Revealed of the Trend in Foreign Design—New Things Seen in the Show of Accessories.

In the words of an American visitor, the Paris Salon which closed its doors on Sunday last, "was a pretty poor exhibition as a show of automobiles." Shorn of its former glory, it limped to a rather humble termination on Sunday last, after a period of strenuous effort to assume the important aspect of other Salons. It suffered first, from the fact that it had been subdivided, the commercial vehicle and flying machine exhibits which have graced it in former years, and which have served to expand it into the greatest exhibition of its kind known to the world, now being grouped by themselves in a separate exhibition to open next week. It suffered second from the ticklish state in which the European and particularly the French section of the industry now finds itself. Notwithstanding, a very brave face was put upon matters by all the car manufacturers and the usual atmosphere of gaiety pervaded the Grand Palais. In nearly every case the individual decorations on the stands were the same or nearly the same as were used last year. Happily for the general effect, some of them were so elaborate and costly as to be well worth seeing several times, and they served to bring up the effect of the ensemble.

In the matter of attendance, the early days revealed the usual crowd of sightseers, the Salon still maintaining its former prestige as a social function pre-eminent. Though the exterior of the show was subdued and reduced to the decoration of the single exhibition hall, though even the lottery which hitherto has been one of the big features of the show was suppressed and no more voiturettes "given away," the crowds continued to surge about the stands and present all the appearance of real business activity. An outlet for the press was furnished by the vacant spaces left by the several unoccupied stands which had been assigned to firms which later sunk under financial difficulties.

A general impression of the show, following the line of the forecasts published a couple of weeks ago revealed some little disappointment in the case of the cars exhibited, but an even more surprising improvement in the displays of accessories which, in variety, quantity and ingenuity outrivaled anything which has yet been seen. Small cars were in abundance, innovations scarce, and among even the more progressive manufacturers, significant changes a rarity. As for trend, it was observable that firms which continue to adhere to the policy of building large and expensive cars are inclining even more than formerly to the use of the sextuple motor, and that in many instances this principle is now carried down to cars of moderate power. Indeed a census of the show revealed a total of no less than 96 cars of this type as against 57 a year ago and only 23 in 1906. The light four-cylinder models, however, predominated. Of freak designs —once so prominent and diverting a feature of the Salon—there were practically none among the exhibits of cars. In the accessory section, however, this phase of the exhibition was renewed in the displays of motors designed for air-ship use, many of which are now produced by long-time automobile makers.

In the finer points of design about which such sharp controversies used to wage, there is now little diversity. Those makers who have settled upon systems which are more or less unusual, continue to adhere to them. Questions of the relative advantages of cone and multiple disc clutches, shaft and chain drives, thermo-syphon and pump systems of circulating the cooling water, high and low tension ignition, selective and progressive methods of actuating the change gear, and pressed steel and armored wood frames are no longer discussed to any great extent on the floor of the show. At the same time it is observable that certain of these questions have been settled by the makers themselves, not by the universal adoption of a single system, but by the use of different ones on different models.

Thus, with the idea that low tension ignition gives better service in the hands of skilled drivers than when placed under the control of the private owner or the novice, several of the makers, among them the producers of the Brasier, Berliet, Mercedes and Lorraine-De Dietrich cars, are now fitting that system on their larger powered machines, while for the medium and low powered models they use the high tension system with its advantage of greater simplicity.

Simplification of dashboards, so noticeable in this country a year ago has now taken hold in France to a more evident degree. The newer Panhard cars, for instance, instead of the coil lubricator and other accessories which formerly adorned them, now have clean dashboards with only the switch and sight-feed glass of the lubricator in sight. The coil has been placed under the bonnet and the lubricator also is located on the front side of the dash. In the case of the Berliet cars, the abandonment of the pressure system of feeding the fuel has permitted the elimination of the several adjuncts to that arrangement, while even the two sight-feed glasses on the rear axle and transmission lubricator lines, have been relegated to a place of concealment under the bonnet. The Renault cars now have the sight feeds of the lubricator let into a special and very neat form of panel on the dash, and are enclosed under a glass plate which is flush with the face of the dash. The lubricator is lodged in front of the dash, and the filling cap is placed directly beind that of the radiator, which continues to occupy its former position straddling the front of the dash. Oddly enough, on this stand is to be seen the only survivor of the numerous self-starting devices which cropped up so plentifully a year ago.

Several makers other than Renault are coming to like the placing of the radiator on the dash, the Berliet cars now having a top and bottom tank so mounted, while several smaller firms have copied the same idea. On the new C. G. V. cars the gilled tube radiator is not carried clear across the dash, but is cut away to admit the placing of the fan directly within its enclosure.

Among improvements in engine construction several instances in which the valves had been suitably encased were noted, as with the Bollée, and Delahaye, the latter also adding a casing for the gas intake and exhaust and the water inlet connections. In general, however, changes in this quarter were scarce and not remarkably significant. Practically the only strikingly novel exhibit was that of the Europeanized, American Silent Knight engine, which was shown on two different stands by concessionaries of the Daimler company, one of them exhibiting a gasolene-electric chassis which mounted it. The Panhard firm, which also had been expected to display this motor as a feature, failed to produce it on any of its models.

A brief scanning of the exhibits with regard to transmission construction, revealed a noticeable disappearance except in rare instances of the expanding ring clutch, which is regarded as having numerous shortcomings; and a continuance of the struggle between the cone and disc types, with many changes of dimensions in the latter to indicate that practice in its design is even yet very unsettled. Change gears are no longer remarkable as an attraction to the seeker after novelty, and but one of the many "mixed" systems which have been shown in former years, is now in a flourishing condition. Live axle constructions continue to multiply on cars of all types except those of the highest power.

The international character of the show has dwindled in keeping with its shrinkage in other respects. While the usual number of other European makers were in evidence, England contributed but a single exhibit, while America had but two. Of these, that of the Ford Motor Co. figured most noticeably.

Inventors Invited to a Competition.

In an effort to secure an effective appliance for preventing any splashing from their vehicles upon their patrons and other pedestrians, the Companie Générale des Omnibus, of Paris, is organizing a competition for contrivances of this nature. Among the specifications on the entry blanks are that competitors shall state the price at which the devices may be had, and also the amount of royalty which would be demanded in the event of the company's deciding to manufacture them on their own account.

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YOUNG HOODLUMS AROUSE PROTEST

Buffalo Police Department Requested to Stop Boyish Attacks on Motorists—Their Outlawry a Menace.

Because a solicitous mother pointed a gun at a representative of the firm when he undertook to remonstrate because her offspring had snowballed him while driving a car, the E. R. Thomas Motor Co. has filed a protest with the Buffalo (N. Y.) police department, pointing to the rapid growth among the youth of the surrounding territory of amusing itself by throwing things at passing motorists. This is the second time the Thomas company has resorted to this measure, a former attempt to secure protection from the police having proved of no avail.

"Some time ago," says the letter, "an out-of-town customer was riding in one of our cars when a boy threw a hard snowball which hit our customer in the eye, breaking his glasses and a part of the lens entered the eyeball and nearly caused the loss of sight.

"A few days ago the writer was struck in the eye by a snowball thrown by a boy. The pain was very intense and for a time there was serious danger of losing the sight of the eye.

"The writer succeeded in catching the boy as he was entering his home and intended to explain to the mother what the boy had done so that she might make an effort to stop his habit, but instead of making any effort to chastise the boy she rushed to the window with a revolver and threatened to shoot the writer, which she probably would have done if the boy himself had not had presence of mind enough to stop her threatened action by explaining the deed.

"It seems impossible to get the parents to make any effort to stop the practice so that we have nothing left but to appeal to your department. We trust you will appreciate the extreme seriousness of this rapidly growing habit and the extent to which it exists to-day, and sincerely hope that you will find some means of stopping it."

Chicago May Offer More Trophies.

At the annual meeting of the Chicago Motor Club on Tuesday, 8th inst., besides re-electing F. C. Donald president, the idea of adding two more trophies for the annual A. A. A. tour was agitated. The club is anxious to hold, under its own rules, in connection with the tour, a gasolene consumption contest and a non-repair competition. Some weeks ago, Col Studebaker offered a $5,000 cup for a no-repair test in this tour and if he sees fit to award this trophy under the Chicago club's formulated rules, that will prove highly satisfactory; otherwise, the club wants to put up its own trophy.

As one of the C. M. C.'s aims is to promote economy among drivers, it is willing to put up a cup to be contested for under its own gasolene consumption formula by Glidden tour entrants, and believes that such a contest would please manufacturers.

In the election, in which there were three tickets, Donald's rival candidate, Thomas Hay, backed out at the last moment and gave the winner a clean sweep, the third ticket also including Donald's name. The slate for the coming year is as follows: President, F. C. Donald; first vice-president, Charles P. Root; second vice-president, David Beecroft; secretary-treasurer, F. H Trego; directors, F. E. Edwards, Paul Picard, Louis Geyler, J. V. Lawrence, H. P. Branstetter.

Women to Hold Reliability Test.

On December 20 and 30, if all goes as is proposed, there will be a road contest from New York to Philadelphia and return that will have at least one novel feature. It will be the first run of the Women's Motoring Club of New York and women drivers only will be eligible as contestants. Entry blanks have been issued by W. J. Morgan, who is to manage the affair and who believes that he can make the run a success. The cars will start at 9 a. m., Tuesday, December 29, from Columbus Circle and make a stop along the route in New Jersey, for luncheon. Upon arriving at the Quaker City the local women's motoring organization that bears that pretty name, La Manigata Klaubo, will receive the contestants at the Walton.

While the rules require that women must drive the entire distance, male mechanics will be permitted, to attend to the heavy work of cranking and changing tires. While no official observers will be appointed in the usual manner, all passengers of each contesting car will be required to sign each day's card and jointly report repairs and adjustments, thereby being placed upon their honor. All types of automobiles will be eligible.

Harrisburg Announces Four Days Contest.

Having conducted a few very successful reliability contests in the past, the Motor Club of Harrisburg, Pa., announces a four days reliability run for the first week in May, 1909. As it is generally understood that next year's Glidden tour will start from Chicago and proceed westward, the Harrisburg Club will aim to make its contest the chief eastern reliability tour of 1909. The Harrisburg body is now planning to ask the co-operation of several of the larger eastern clubs, which will be requested to appoint a number of the officials of the contest. The rules will provide for a schedule well up to the legal limit, with observers on all cars; also a technical examination at the finish. One of the proposed features will be an actual tire record giving a practical contest for tire manufacturers.

RIDICULE KILLS A BRIGHT IDEA

Card System for Identification of Motorists Looks Good to St. Louis Police Chief—But the Public Kicks.

Some time ago a bright idea originated in the heads of certain members of the Automobile Club of St. Louis for a novel card system that was calculated to do away with much of the annoyance occasioned when members were arrested for speeding. The arrangement was for drivers to carry cards issued by the local club and countersigned by the chief of police. If placed under arrest by a policeman, all that would be necessary for them to do, would be to display the passport, giving the cop the number and then the motorist might proceed upon his way in perfect peace. He would merely have to appear in court the next day to answer the charge.

Chief of Police Creecy considered this plan a good one at first, but he changed his mind later when citizens of St. Louis who were not members of the club set up a howl and as a result, the card system will not materialize. As soon as the idea was made known, the newspapers and comic supplement editors took it up and made it the butt of numerous jokes, some suggesting that the chief extend the system to benefit those who could not afford the luxuries of automobiles, such as recognized professionals among the porch-climbers, highwaymen, confidence men and lady shop-lifters, to save them the annoyance and embarrassment of being arrested at inconvenient moments.

In reply to the objections of those who were not members of the automobile club, the Chief declared that he intended no discrimination regarding non-members, but that the idea would have held good for any motor car owners who cared to make application to him for cards. Inasmuch as the people seemed to have the idea that the club was being favored, however, he decided not to inaugurate the plan.

Thespians Abandon Trains for Automobiles.

While it is the usual custom for theatrical companies to use the railroads as a means of transportation from place to place, or more often to walk, up-to-date methods are now being employed by a number of Broadway favorites. Walter Hale, who owns a 40 horsepower Studebaker car is so disgusted with the disagreeable features of train travel that he has practically abandoned that style of transportation and with a few of the leading members of "The Wolf" company, uses his car almost exclusively. The railroad is graciously permitted to carry the trunks, scenery and the minor members of the cast, but Hale no longer has to worry about time table schedules.

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JAIL SENTENCE FOR JOY RIDER

Court Regrets that He Cannot Make the Term a Year—Maximum Fine Added to Thirty Days' Imprisonment.

"It's almost a pity you weren't killed. Thirty days and $250 fine is the heaviest sentence we can give you, I regret to say. I wish I could give you a year," declared Justice Wyatt in the Court of Special Sessions, New York City, one day last week, when Felix Droit, a French chauffeur, was being tried for speeding. This penalty is the heaviest ever imposed upon a driver in that court for breaking the speed laws, and if Droit is unable to pay the fine, he will be confined in jail 250 days in lieu thereof.

According to the testimony of Policeman Rickert of the motorcycle squad, Droit was speeding up Broadway at a rate of 40 miles an hour on the morning of August 28 last, at about 5 o'clock. At Fifty-second street, Rickert gave chase and Droit swung into Fifty-first street and up Seventh avenue and then amused himself by zig-zagging in and out of various streets on the West side between Thirty-fourth and Fifty-seventh streets, with the motorcycle cop in pursuit. It was not until the driver hit an "L" pillar at Fifty-first street and Third avenue that the chase ended. Rickert declared that Droit turned corners in the most dangerous fashion and added: "Half the time he was on the sidewalk. He ran two blocks on the sidewalk on Thirty-fourth street. I fired five shots at his tire during the chase, but I couldn't hit it. It was the most daredevil driving I ever saw. Even when he hit the pillar and his left rear wheel came off it didn't stop him. He stuck to the machine and it slid a whole block, it was going at such speed."

After hearing other witnesses, who testified that on the date of the chase, the owner of the car, H. P. Wilson, was in California and that the chauffeur was "joy-riding," the court decided to make an example of him and held that the fact the speeding was done at an hour when there was little traffic in the streets, did not alter the case any.

Following the decision, District Attorney Jerome said he would endeavor to have Droit's chauffeur's license revoked and if he finds that the law as it now stands, does not provide for such revocation, he will try to have a bill passed in the Legislature that will enable the District Atorney's office to revoke licenses after a third offense.

New York Leads in Road Building.

According to the statement issued on December 12, by State Engineer Frederick Skene, of New York, 820 miles of good roads have been constructed in New York State during the current year. This is considably more than was accomplished in 1907, when only 311 miles were built. Skene also points with pride to the fact that while Massachusetts and New Jersey formerly were leaders in good roads work, New York State is now far in advance of these in highway improvement.

"There are at present approximately 500 miles under contract," he states, "and over 1,000 miles awaiting contract. Of the $50,000,000 State money voted by the people for this work, $11,000,000 has been appropriated.

"If the roads completed during the last season were placed end to end they would reach from New York City to Buffalo, via Albany and Rochester, and from Buffalo to New York City, via Elmira and Binghamton."

Owners Who Drive Must be Licensed.

Because many New Jersey automobile owners who employ chauffeurs to drive their cars, are careless about obtaining licenses for themselves to cover the infrequent occasions when they care to drive their own machines, the State commissioner of motor vehicles has issued a warning to this class of motorists. The department expects to keep close watch on owners who are careless about the matter of their own driving licenses. In a word, a man owning a high-powered car, which ordinarily is driven by a chauffeur, has got to pay $28 or more annually instead of $14, if he himself cares to take the wheel occasionally.

Virginia Motorists Want to be Taxed.

Virginia motorists are making an effort to get the State to tax each automobile owner within its borders the sum of $10, instead of not taxing them at all, as is now the case. The motorists want to be taxed so that good roads can be built, over which they may drive in comfort. It is estimated that there are now about 500 cars owned in the State and that a taxation at the rate proposed would raise an annual fund of $5,000, which is used to augment the State's small appropriation for good roads, would be of considerable benefit. Several of the automobile associations in Virginia hope to introduce a bill in the legislature.

Maxwell-Briscoe Owners Getting Together.

Clubs composed exclusively of the owners of certain makes of car are finding a useful purpose in amalgamating the common interests of the members, who are bound together by ties altogether different from those which exist in the more ordinary form of motoring organization. The latest association of this type to be conceived, is the Mexwell-Briscoe Motor Club, which is now in process of formation. An annual tour of two or three weeks' duration is to be one of its allurements to prospective members.

Three Cities Ready for Taximeter Cabs.

Denver, St. Louis and New Orleans are all promised taximeter cabs in the near future. In each case the tentative date for the installation is about the first of the year.

LAW SAID TO INJURE BUSINESS

New Jersey Automobile Trade Association Alleges a Boycott of the State—Demand for More Liberal Legislation.

Claiming to feel the resentment of motor car owners and manufacturers at New Jersey's automobile law, in a decline of business and a withdrawal of orders by individuals and companies outside of the State, the New Jersey Automobile Trade Association appointed a committee, on the 10th inst., to take steps for a modification or repeal of the law. The resolutions accompanying the appointment of the committee recited that many automobilists are avoiding New Jersey altogether, thus lessening the revenue of the residents, and that the fifty or more lines of trade within the State which are more or less directly concerned in the automobile industry are "seriously menaced owing to the arbitrary laws enacted and now in force" relating to the motor car traffic.

At the meeting a number of letters were read, wherein the New Jersey recipients were told that they need not expect further business from the writers until the State's attitude toward automobiles was changed for the better. Instances were given where visiting motorists were fined for coming within the State without a license, yet who, because of holiday regulations, were not able to obtain licenses to proceed after paying their fines. Altogether the law came in for a severe scoring, and the trade interests of the State purpose to see that it is remedied.

Long Island Club Elects Officers.

At the Long Island Automobile Club's election, held on Wednesday, 2d inst., at the club house, Frank G. Webb was chosen president, William Schlimpf proving victorious for vice-president, and C. C. Cluff for treasurer, while Herbert Andrews is to be the new secretary. When the election started two tickets were in the field. Three new members were chosen to act on the board of governors: Alfred Weimarth, Charles Jerome Edwards, and Dr. A. C. Howe. Announcement was made of the annual club dinner to be held Thursday evening, December 10. The secretary's report showed a gain of 50 members during the past year.

Chicago Club Auxiliary Issues Bonds.

A 6 per cent. bond issue to the amount of $25,000, has been underwritten by the Western Trust and Savings Bank for the Chicago Automobile Club Auxiliary Association. The bonds are due August 1, 1913, and the property consists of the leasehold and improvements of the southeast corner of Jackson Boulevard and Plymouth Place, together with other real estate.

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WHEN THE TARIFF WALL HELPED

How Importers Clambered Over It to Paths of Opulence—Typical Transactions Before Tribulation Began.

Efforts on the part of the importers of foreign made cars to gain the advantages of a tariff reduction serve to call attention to the comparative straits in which they now find themselves by contrast with the former palmy days when they were in no way surrounded with any of their present difficulties either in securing a market for the product they represented, or in exploiting it at almost any price they cared to name. Indeed, the days are not long past when the "tariff wall," now become so onerous, was welcomed as an excuse for raising the price of the European product, and was accepted by the opulent purchaser almost as a matter of course, and without protest. In reminiscent mood, a man who has long been familiar with the operations which have characterized the foreign market in New York City, recently gave an instance or two as typical of some of the methods which were so profitably carried on a few years ago, when the most palatial and exclusive establishments along upper Broadway were those conducted by the importers.

"It was not enough to add item after item to the cost in those days," he said, "until the sum which the buyer paid for a car of pretentious appearance soared way up into the thousands beyond its legitimate value, but occasionally the dealer resorted to the most brazen trickery in his zeal for swapping the foreign made automobile for the American-made dollar. Here is a case in point which came to my knowledge a while ago, and which concerned an importing company then well known, if not notorious for the lavish display of its establishment and the huge prices asked and received for the famous car which it handled.

"One of the 'gilded youths' of the town took it into his head to buy one of those particular cars, and was accordingly mulcted to the tune of $16,000 or thereabouts for the car and its complete equipment. A few days later, becoming hard pressed for money, he was forced to dispose of his new possession, and approached the manager of the same concern with a proposition to stand the car on the floor in the hope that the company could secure a buyer for it. The offer was accepted with the usual assurances that only the most nominal figures were allowed for "second-hand" cars, and that the company would require a liberal commission in return for its efforts at disposing of the undesirable property when it had plenty of newer and therefore better cars of its own to offer the purchaser. Needless to say, the terms were readily agreed to and the car was polished up and put in the show room.

"Not many days afterward there appeared at the office a wealthy creamery operator from Pennsylvania who wanted a fast car to take him daily between his office in Philadelphia and his country home. He wanted a 90 horsepower car, he said—one that would go '60 miles an hour.' He was advised by the suave manager that they had no 90 horsepower cars just then, but they had a 60 horsepower car which ought to just about satisfy his requirement. Accordingly, the storage car was taken out, and he was given a speedy demonstration over the road to the City of Brotherly Love at a rate which fairly took his breath away, and actually made him beg the driver to save his life by slowing down. The car having thus proved satisfactory, a sale was agreed upon, and this second purchaser was taxed the full $16,000 for the car and its original equipment before he became possessor of it.

"The young New Yorker who had owned the car for a brief space of time, but not long enough to mar its finish, was then approached with the glad tidings that the assiduous management had at length succeeded in disposing of his machine, and at a very gratifying figure, too. By great good fortune the car had been sold for no less than $9,500, which, deducting the firm's commission of $1,000 for the transaction, would net the happy near-bankrupt exactly $8,500. He was even congratulated on his 'luck' in getting so much for the car, and I daresay the congratulations were sincere, for I don't know why they gave him as much as they did.

"But there were two sides to the importers' story then, as there are now," he continued. "In one instance, this same company gave a long series of most promising demonstrations to a young man of apparently wealthy circumstances, who for a period of not days, but weeks, ordered the demonstrator to meet him at the Waldorf Hotel late in the afternoon each day, and thereupon went for long rides with his charming lady friends, and had very gay times indeed. He was pleased with the car, he announced at length, but still questioned it in one or two respects. Finally, some question having been raised as to whether he actually lived at the Waldorf, a salesman hopped on the car one night, and pointedly offered to 'take him home.' This failing to bring about the desired result, a quiet investigation was commenced, when it was learned with some alarm that the supposedly good 'prospect' actually resided in a very limited uptown flat under the tender solicitude of his mother, that he had hardly enough money to pay for his elaborate motoring apparel, and that he was in the habit of meeting his Waldorf appointments by riding downtown on a trolley car.

"You will see from this that the importers were forced to exercise self-protective and retaliatory measures sometimes. Though you can judge for yourself whether they managed to keep themselves afloat," he concluded.

LIGHT ON ENGLAND'S PATENT LAW

How Far It Binds Foreign Inventors to British Manufacture—Assemblage of Machines Apparently Sufficient.

Doubt and anxiety as to the interpretations under which the new patent act in the United Kingdom will be administered, has led numerous American manufacturers to address inquiries to the American consuls stationed in Great Britain, particularly as to the extent to which the provision for manufacture in the United Kingdom is binding. In this connection Consul J. N. McCunn, at Glasgow, replies to a New York inquirer as follows:

"With regard to the clause 'to an adequate extent,' I am informed that it would appear to be perfectly in order, in the meantime, to manufacture the parts of a machine in the United States and have them assembled in the United Kingdom. The ground on which this view is taken is that each part of the machine, taken separately, is not a patented article, the patent merely applying to the machine as a whole. No test case has yet been taken in the British courts, and I am informed that the above is the generally accepted reading of the law until such a test case is brought.

"A company has recently been started in Glasgow," he concludes, "having for its object the safeguarding of the property of foreign patentees selling in the British Isles, and one of their pamphlets, which gives excerpts from the patent act, is forwarded and may be obtained from the Bureau of Manufactures."

Growth of the Industry in Germany.

It is difficult to appreciate the rate of growth of the automobile industry, so rapid has been its expansion during the past few years, and so absorbing have been the details of technical improvement which have attracted attention almost to the exclusion of all consideration of its business development. Its rate of increase the world over, however, is aptly reflected in the case of Germany where the dozen automobile factories of 1901 had been increased to 24 in 1906, while the value of the total product had increased nearly ten-fold in the five years. The German official statistics are quoted by American Consul William Thomas Ree, of Bremen:

"In 1901 there existed in Germany 12 automobile factories employing 1,589 persons, while in 1906 this number had increased to 34 factories with 10,347 employes. In 1901 $431,873 in wages were paid by the factories, or $272 per workman, while in 1906 $3,171,012 were paid for wages, or $307 per workman. The total value of production shows nearly a tenfold increase in the five years. It amounted in 1901 to about $1,340,000, and in 1906 to $12,200,000."

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The Week's Patents.

898,317. Explosive Engine. Varnum F. Carpenter, Cleveland, Ohio. Filed Dec. 21, 1907. Serial No. 407,527.

1. An engine having an explosion chamber and a piston therein, a duct for the charge leading to said chamber, a rotatable valve in said duct, means to rotate said valve and open and close the same at alternate strokes of the piston and means to retire said valve from said duct and leave the duct unobstructed, whereby a two-cycle engine is obtained.

898,361. Carburetter. Frank H. Heitger, Indianapolis, Ind., assignor to Speed Changing Pulley Company, Indianapolis, Ind., a Corporation of Indiana. Filed March 31, 1906. Serial No. 309,195.

1. In a device of the class described, a mixing chamber having an air inlet opening at the bottom and an outlet at the top, in combination with a liquid reservoir adjacent to said chamber and having a duct extending beneath the opening in the latter, a nozzle rising into said chamber from said duct, an air valve concentric with said nozzle for regulating the admission of air at the inlet opening, and a vapor tube within said chamber and forming a guide for said valve, substantially as described.

898,402. Elastic Vehicle Tire. William Brameld, Paterson, N. J., assignor of one-tenth to James T. Jordan, Paterson, N. J. Filed Aug. 14, 1907. Serial No. 388,449.

1. An elastic unitary tire member having cells arranged in lines radiating, in the cross section of the member, from substantially a common center, each cell extending short of the exterior surface of said member but having its radial dimension equal to the major portion of the corresponding dimension of said member, substantially as described.

898,427. Igniter for Explosion Engines. Henri Benoist, Paris, France. Filed Sept. 24, 1907. Serial No. 394,334.

1. In a device of the character described, the combination with a main supporting member, of an insulated stem extending therethrough, an auxiliary supporting member designed to be telescopically, removably secured to the main supporting member and terminating in an electrode, an insulating member contained within said auxiliary supporting member and a pin passing through said insulating member and terminating in an electrode, said pin being designed to contact with said stem to conduct current to the said electrodes.

898,436. Vehicle Wheel. Herbert Clifford, New London, Conn., assignor to Ralph Clifford, Monson, Mass. Filed April 20, 1907. Serial No. 369,353.

1. A vehicle wheel comprising a hub, spokes and felly, and a rim formed from convolute springs and ends of which are bent inward beyond said felly to which the ends of the springs are secured, substantially as described.

898,438. Engine Starter. Clyde J. Coleman, Rockaway, N. J., assignor to Conrad Hubert, New York, N. Y. Filed Aug. 13, 1904. Serial No. 220,648.

An engine starter comprising power applying means engageable with the engine, a pressure applying chamber, the power applying means being actuatable by pressure in the chamber to move it in one direction to start the engine, means opposed to such movement and operative to return the power applying means to starting position when the pressure in the chamber is relieved, pressure storage means, and a pressure and exhaust valve controlling the communication from the storage means to the chamber, and also controlling an exhaust from the chamber.

898,483. Spout for Cans. Charles F. Kellom, Philadelphia, Pa. Filed March 16, 1907. Serial No. 362,661. Renewed June 20, 1908. Serial No. 439,599.

1. In a can, a nozzle and a spout pivotally and invertibly supported adjacent said nozzle and adapted to be brought concentric with relation to and to coact with said nozzle, said spout having means embracing said nozzle whereby the contents of the can may be poured therefrom without leaking or spilling.

898,494. Carburetter. Louis P. Mooers, Cleveland, Ohio. Filed June 30, 1905. Serial No. 267,679.

1. In an explosive engine a plurality of independent sets of carburetting means, one of the carburetting factors being the same in each set, other carburetting factors being different in each set, a mixing chamber, an engine throttle and means operating simultaneously with the closing movement of the throttle to cut off that carburetting set having the least carburetting effect for a given volumetric rate of flow of the mixture therefrom.

898,495. Carburetter. Louis P. Mooers, Cleveland, Ohio. Filed June 30, 1905. Serial No. 267,680.

1. In an explosion engine, a plurality of independent sets of carburetting means having different permanent carburetting factors, an engine throttle, and means operating simultaneously with the throttle for throwing any individual one of said carburetting sets out of operation, and bringing a second set having a different permanent factor into action.

898,497. Automobile Tire. William Muller, Philadelphia, Pa. Filed Sept. 27, 1907. Serial No. 394,782.

In an automobile wheel, a split rim formed with opposing and inwardly curved jaws, one jaw being integral with the wheel spoke and the other jaw being removably secured to said wheel spoke, a spring chamber recessed in said split rim and formed partly in the integral and partly in the removable jaw thereof, a tire having an enlarged tread and base and a narrowed neck, a tire sheath secured to and inclosing the neck and base of said tire, a plunger secured to said tire sheath and slidably mounted in said spring chamber, a spring coiled in said spring chamber, and a tension bolt mounted in the end of said spring chamber, whereby the tension of said spring may be regulated, substantially as described.

898,567. Gasolene Filter. John Ellis, Lynn, Mass. Filed April 28, 1906. Serial No. 314,141.

1. A gasolene filter and separator comprising in its construction a casing provided with a passageway extending longitudinally therethrough and having an inlet and an outlet orifice, said casing provided with a filter chamber adjacent to said inlet orifice, there being a precipitation chamber located beneath said passageway between said filter and said orifice.

898,608. Vehicle Wheel. Christian Seewald, Williamsport, Pa. Filed April 22, 1907. Serial No. 369,540.

1. A vehicle wheel having a hub, spring spokes with their inner ends secured to said hub, a rim to which the outer ends of said spokes are fastened, discs at the end of the hub bearing respectively against the opposite sides of the spokes near their outer ends for transmitting driving stress to said spokes near their outer ends.

898,665. Lens. Geo. A. Macbeth, Pittsburg, Pa., assignor to C. T. Ham Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed May 21, 1908. Serial No. 434,076.

1. A lens comprising a concave convex ringed refracting portion and an integral surrounding plain annulus of greatest thickness at its inner edge and tapering therefrom to the outer edge.

898,678. Casing and Cylinder Construction for Gas Engines and the Like. Charles R. Piggins, Racine, Wis., assignor of one-half to Frederick Piggins, Racine, Wis. Filed Feb. 26, 1908. Serial No. 417,837.

1. A gas engine casing, comprising a base having a cylinder seat, a water conduit and a gas conduit within the base each having an opening leading to the top of the base, an engine cylinder mounted on the cylinder seat of the base and provided with a water passage and a gas passage within its walls adapted to register with the openings of the water conduit and the gas conduit respectively, a water jacket communicating with the water passage, and an intake valve chamber communicating with the gas passage.

898,714. Anchoring and Tension Device for Tire Protectors. Samuel C. Wolfe, Angola, Ind. Filed Nov. 14, 1907. Serial No. 402,121.

1. In a tire protector of the class described, the combination of a tire receiving sleeve having free edge portions, means for securing said sleeve to a wheel and comprising rigid split rings detachably applied to the free edge portions of the sleeve, means for adjusting the connection between the ends of the split rings, and tension devices connected with the split rings, each consisting of a housing, windlass shafts mounted in said housing, flexible members connected with the windlass shafts and with the split rings, and means whereby the flexible members may be wound on the shafts for the purpose specified.

898,798. Shock Absorber for Automobiles. Irving Stanley, New York, N. Y., assignor to Merritt S. Middleton, Brooklyn, N. Y. Filed Aug. 8, 1907. Serial No. 387,584.

In a shock absorber, an integral casting comprising a hollow casing and an attaching plate having bolt holes, whereby the structure may be rigidly attached to the car, a cylinder closed at one end and threaded into the casing, a piston in the cylinder provided with an unobstructed passageway of permanent and uniform capacity, whereby the material in the cylinder may pass from one side to the other of the piston, a rock shaft journaled in the casing, two cranks on the rock shaft, one within and the other without the casing, means connecting the crank within the casing with the piston and other means connecting the other crank with an appropriate part of the car.

898,807. Valve Mechanism for Engines. William L. Wayrynen, Dolph, S. D. Filed June 25, 1907. Serial No. 380,762.

1. In an engine, a cylinder having an inlet valve, a valve stem carried thereby and extending to the exterior of the cylinder, a casing inclosing the outer end of said valve stem and having an opening in the side

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thereof, a lever pivoted to said casing and having a portion thereof adapted to enter said opening to engage with said valve stem, an exhaust valve, a valve stem therefor, and engaging with said lever to intermittently move it into and out of engagement with said inlet valve stem, and means adapted to engage with said lever to cause the latter to lock the inlet valve in its closed position when the engine exceeds a predetermined speed.

898,832. Elastic Tire for Wheels. Felix J. Chary, Paris, France. Filed Jan. 13, 1906. Serial No. 295,920.

In a tire for vehicle wheels, the combination, with the rim, of a plurality of frames of parallelogrammic form secured in said rim independently of each other, each frame having a groove at its under part on all sides, and inwardly projecting tongues intermediately of the length of all of the sides, and tread blocks secured within said frames by means of base flanges which extend beneath said tongues and into said grooves, the grooves or spaces between adjacent blocks extending obliquely of the tread surface.

898,850. Pneumatic Tire. William Drury, Swansea, Wales, England. Filed April 14, 1905. Serial No. 255,520½.

1. In a pneumatic tire, the combination of an inner strain cover divided longitudinally upon its outer part, an outer tread cover divided longitudinally upon its inner part, interlocking means intermediate between said covers, such means acting to interlock the parts under inflation, said interlocking means comprising longitudinally extending recesses and interlocking projections.

898,903. Rotary Gasolene Engine. Chas. W. Lindsay, Anthon, Iowa. Filed Aug. 23, 1905. Serial No. 275,448.

1. In an engine, the combination of a pair of sections each comprising a cylinder and half a crank chamber, bolts for connecting the sections together, bearings formed on the sections and lying in the plane of division thereof, a crank shaft mounted in the bearings and having a bore extending short of the inner end thereof and provided with a plurality of transverse passages leading out of the bore, sleeves in one of the shaft bearings leading out of the bore, sleeves in one of the shaft bearings and arranged in spaced relation to form a chamber into which the said passages discharge, pistons in the cylinders, connections between the pistons and crank shaft, a valve chamber on each cylinder, an inlet valve in each chamber, an exhaust valve in each chamber, stems on the exhaust valves extending parallel with the cylinders and disposed on opposite sides of the crank shaft, bearings on the cylinders for the valve stems, secondary shafts disposed parallel with the crank shaft, bearings on the cylinders for the inner ends of the secondary shafts, oppositely disposed bearings on one of the crank shaft bearings for the secondary shafts, a pinion on the crank shaft, and gear wheels on the secondary shafts meshing with the pinion.

898,907. Tire for Vehicle Wheels. Tod J. Mell, Youngstown, Ohio, assignor to The Republic Rubber Company, Youngstown, Ohio, a Corporation of Ohio. Filed May 25, 1908. Serial No. 434,915.

1. A tire for vehicle wheels provided with outwardly projecting circumferentially arranged elongated studs each having inwardly diverging walls, a flat outer surface, and a relatively large base, substantially as described.

898,920. Carburetter. George S. Pierson, Kalamazoo, Mich. Filed Oct. 7, 1907. Serial No. 396,228.

1. In a carburetter; the combination of a fuel reservoir; means for maintaining the fuel in said reservoir substantially at a constant level; a main air passage; a chamber or well opening upwardly into said air passage and depending into said reservoir; a fuel opening in the bottom of said well communicating with said reservoir; an air tube hanging in said well, said tube supplying air to the bottom of said well independently of said main air passage, said tube being adjustable to vary the space between its lower end and the bottom of said well for the purpose of regulating the discharge of mixed air and fuel through said space and upwardly through said well.

899,055. Speedometer. Joseph W. Jones, New York, N. Y. Filed Nov. 5, 1907. Serail No. 400,787.

1. In a speedometer, the combination with a shaft adapted to be driven by the mechanism or vehicle the speed of which is to be measured, of a device movable longitudinally on said shaft, means for imparting movement to said device proportionately to the speed of the shaft, means operated by said longitudinally movable device for indicating the extent of its longitudinal movement and thereby the speed at which said mechanism or vehicle is being operated, and means intermediate the said longitudinally movable device and the said indicating means adapted to adjustably operatively connect the same together; said indicating means comprising a shaft bearing an index or pointer; and said intermediate means comprising a slotted disc fast on said index shaft, a pin operatively connected with said disc in the slot thereof and also operatively connected with the said longitudinally movable device on the driven shaft, and means adapted to move said pin in said slot toward or away from the index shaft.

899,056. Non-Skidding Device for Wheels of Vehicles. Henry H. Kenshole, Ilford, England. Filed Jan. 8, 1907. Serial No. 351,384.

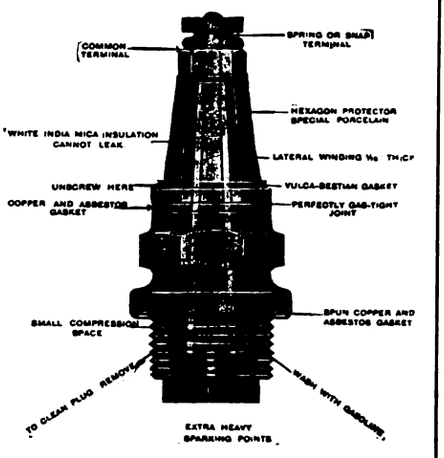
1. A non-skidding device for wheels of vehicles comprising a dummy wheel mounted alongside the vehicle wheel, means allowing of lateral motion of said vehicle wheel upon its axle, a rising and falling bearing carrying said dummy wheel, and automatic operating and connecting means between said bearing and said vehicle wheel to raise and lower said dummy wheel.

899,061. Vehicle Tire. Robert M. Merriman, Youngstown, Ohio. Filed March 13, 1907. Serial No. 362,167.

The herein described reinforcing cable for rubber tires, the said cable consisting of a plurality of metal and textile strands, the metal strands being twisted together and the textile strands being twisted and interwoven so as to completely cover the metal strands, the cable being saturated with a rubber cement which penetrates the textile strands so that when the cable is embedded and vulcanized in the tire the reinforcement and tire are practically inseparable from each other.

899,109. Carburetter. Frank H. Heitger, Indianapolis, Ind., assignor to Speed Changing Pulley Company, Indianapolis, Ind., a Corporation of Indiana. Filed May 16, 1906. Serial No. 317,162.

1. In a device of the class described, a reservoir containing a central vapor tube



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opening through its bottom and extending above its top, in combination with a suitable nozzle communicating with the reservoir and located in the lower part of said tube, a suitable cover or top for said reservoir through which said tube extends, a mixing chamber having an opening in its bottom and arranged above the top of the reservoir, said mixing chamber having a suitable outlet, and an automatic air admission valve arranged about the upper end of said vapor tube for closing the inlet opening in said mixing chamber, substantially as described.

899,126. Spare Tire Holder. Leo P. McKinney, Boston, Mass., assignor of one-half to John L. Snow, Boston, Mass. Filed Dec. 31, 1907. Serial No. 408,768.

1. A spare tire holder provided with a head having a tire engaging portion presenting a broad tire engaging surface, and means for securing the tire against said surface comprising a strap passing directly and completely around both the tire and said tire engaging portion.

899,139. Cushion Tire. John G. Smith, Wahoo, Neb. Filed March 18, 1907. Serial No. 352,898.

1. A cushion tire comprising a rim having a series of radially movable spring cushioned tread elements arranged thereabout in openings therein, and each comprising an outer approximately U shaped member with an inner reinforcing member secured thereto, and a plurality of spring pressed plungers secured at one end to each of said tread elements and operable at their other ends in said rim.

899,283. Power Transmission Device. Stead A. Asquith, Waterloo, Iowa. Filed July 27, 1907. Serial No. 385,855.

1. A device of the character described, comprising in combination, a rotatable driving shaft, a friction wheel mounted thereon, a rotatable driven shaft, a main friction disc slidably but non-rotatably mounted thereon, side friction disc rotatably mounted with their inner faces in juxtaposition to the circumferential bearing edges of both said friction wheel and main friction disc, and means for causing said side friction dicsc to bear equally upon the edges of said friction wheel and main friction disc.

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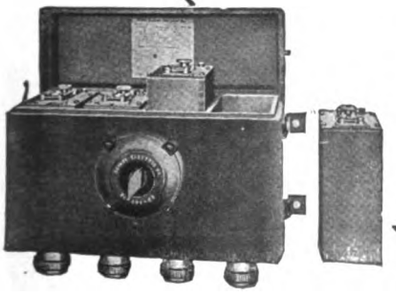
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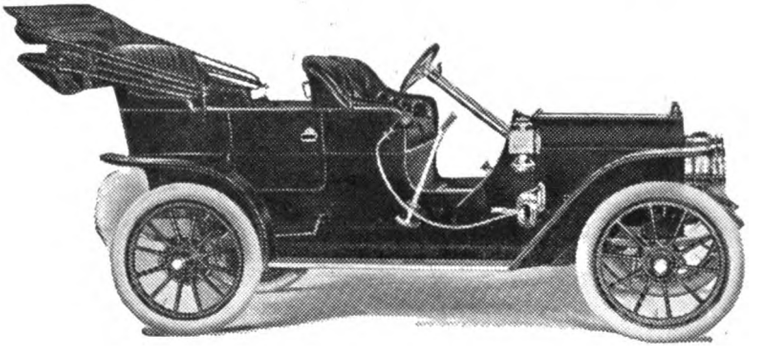
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Makers of the Famous Witherbee Batteries. **1876 BROADWAY, NEW YORK.**

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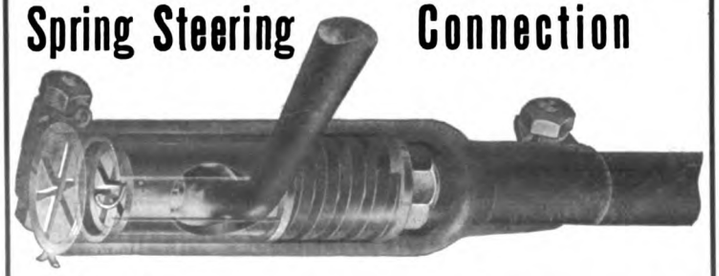
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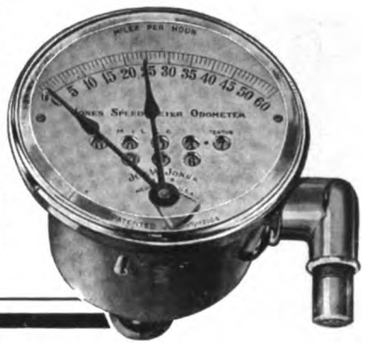
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Expense has not been spared in the construction of our Magneto to make it thoroughly high grade and the best apparatus of its kind on the market. This is proven by the volume of business we are doing and the successful cars with which our Magnetos are regularly equipped.

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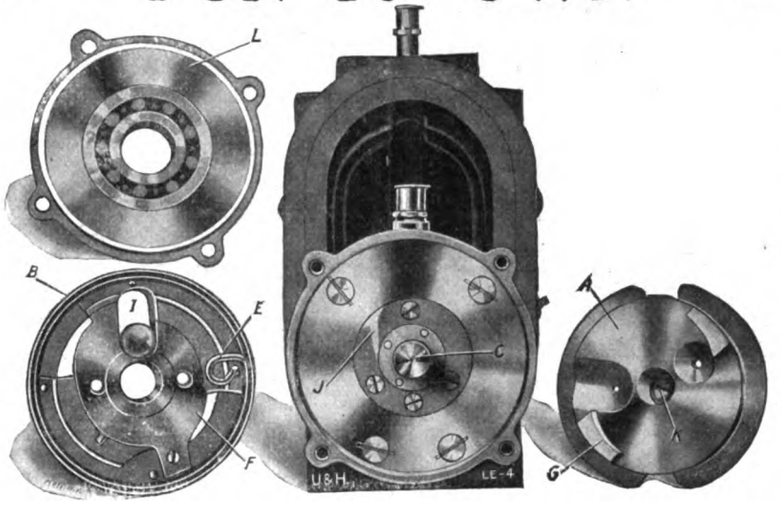
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It means a spark of maximum intensity—the same spark as at racing speeds—on the slowest turn of the starting crank.

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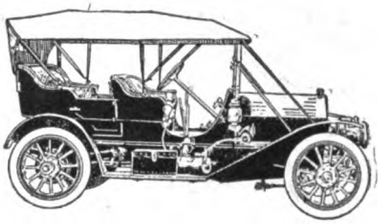
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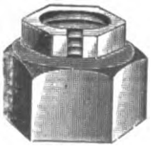
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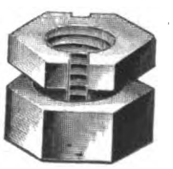
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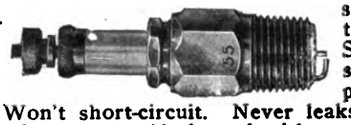
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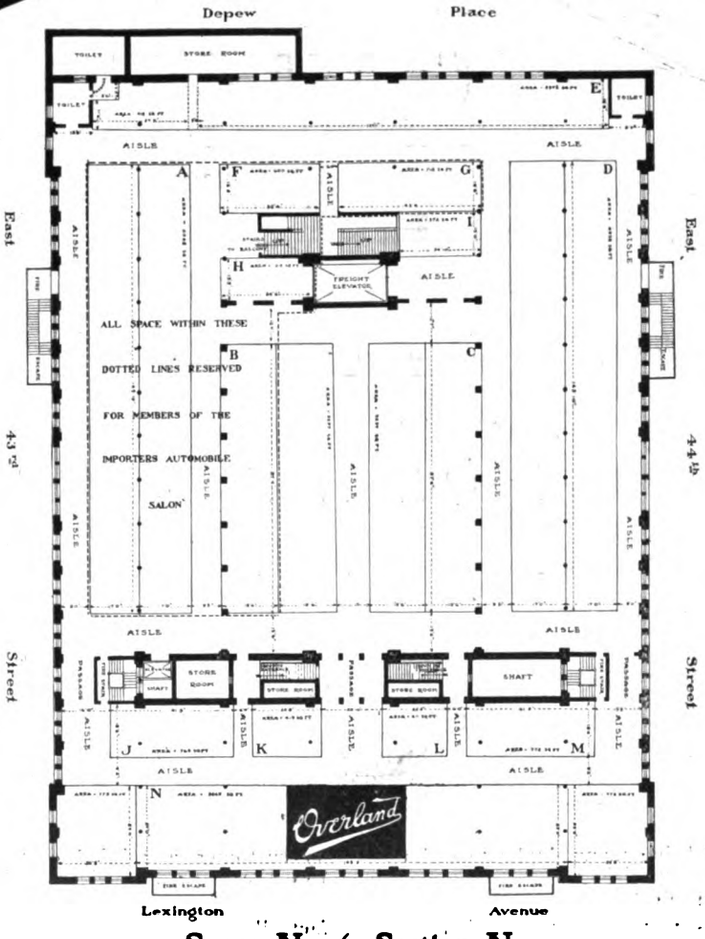
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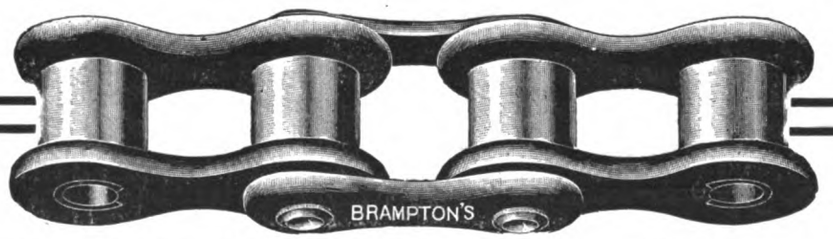
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January 16 to 23, 1909, New York City

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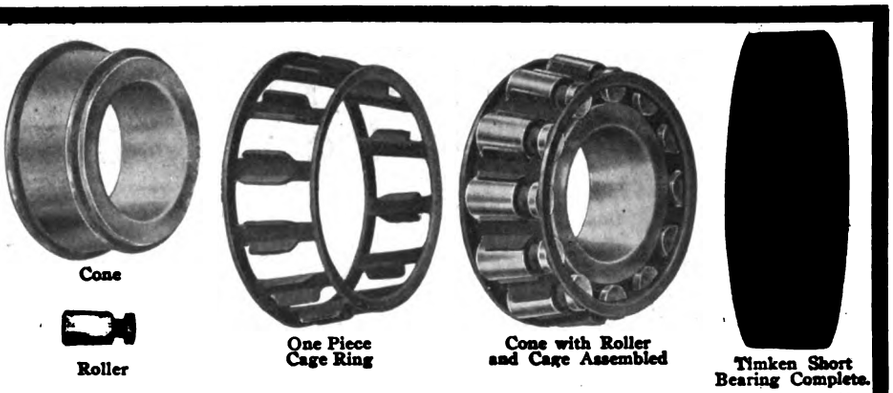
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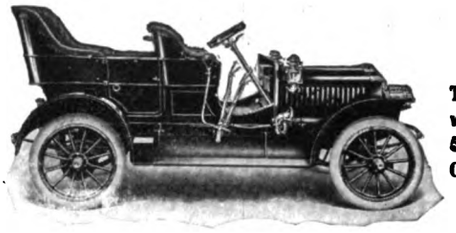
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"The aristocrat of moderate priced cars"



The Car with the 5 Bearing Crank Shaft

Model D. A. 30 H. P. $1,750. One of the five Maxwell models.

You see them everywhere these Maxwells—the car with the brass band across the radiator.

What has caused this success, for surely 12,000 Maxwells running from Maine to California is indisputable proof of popularity. This season brings its quota of new makes—yet to be tried—but the Maxwell stands proved—stands squarely on its reputation of making good. Three factories representing one million and a half dollars worth of equipment will this year make 9,000 Maxwells.

NO OTHER CAR THAN THE MAXWELL COMBINES ALL THESE FEATURES IN A SINGLE DESIGN.

Thermo Syphon Cooling. No pump.
Unit Construction.
Three-Point Suspension.
Multiple Disc Clutch.
Shaft Drive.
Indestructible Metal Bodies.

These were originated in the Maxwell and have been an integral part of its construction since 1904.

I want to get in personal touch with you to recommend one of the five models which fits your case.

A postal will bring our catalogue. Send for it to-day —NOW.

Benj Briscoe
President.

Maxwell-Briscoe Motor Co.

P. O. Box 106, Tarrytown, N. Y.

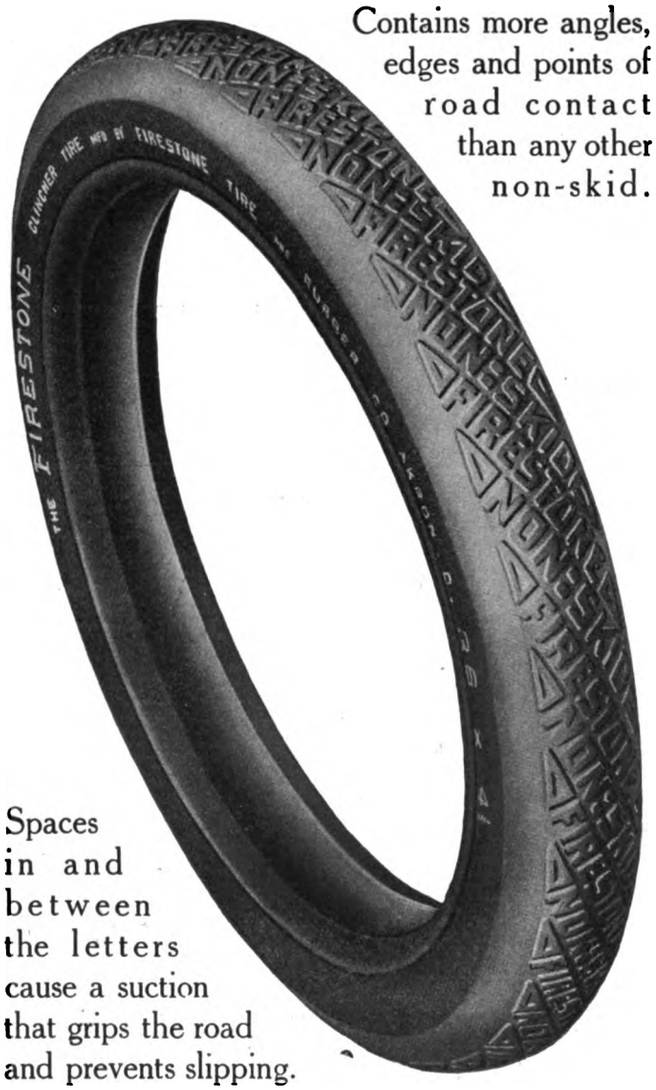
Factories: New Castle Tarrytown Pawtucket

"Firestone"

NON-SKID TREAD

Composed entirely of rubber. Formed by the raised lettering "FIRESTONE NON-SKID" arranged obliquely across the tread surface.

Contains more angles, edges and points of road contact than any other non-skid.



Spaces in and between the letters cause a suction that grips the road and prevents slipping.

The wear-resisting quality of this tread is a revelation to motorists accustomed to the quick wearing down or tearing out of the ordinary non-slip devices.

FIRESTONE TIRE & RUBBER CO., AKRON OHIO

Branches and Agencies Almost Everywhere

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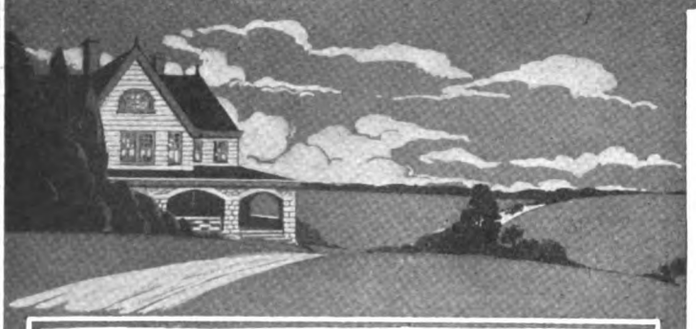
We extend to every individual motorist and dealer a cordial invitation, while attending the New York Show, to visit the exhibit of the

Premier
"The Quality Car"

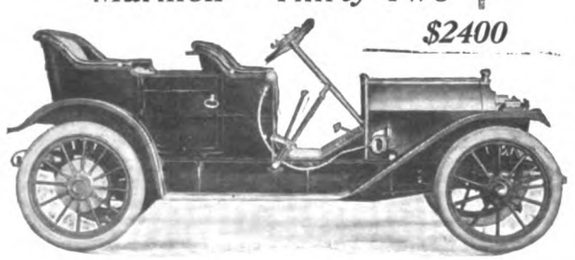
Section C, Grand Central Palace

THE MARMON
"A Mechanical Masterpiece"





Marmon "Thirty-Two"
$2400



For The Man Who Doesn't Buy With His Eyes Shut

The Marmon "Thirty-two" is neither a cheaply-built car at a low price, nor a "good-enough" car at a high price.

It is a thoroughly high-grade car, carefully built and completely equipped, at a price which makes it the best real bargain of the year.

It is a car of whose character, appearance, and performance its owner may well be proud. It is a car that will live and can be depended upon. The Marmons of 1904 are still giving splendid service.

Equipment and Marmon construction considered, it urges a careful investigation by every buyer who is really economical.

Genuine Krupp and Chrome Nickel steels used in important parts. Bosch magneto and battery—dual system. Hess-Bright imported ball bearings. Weight (weigh it), 2,000 lbs. 32-40 H.P. Big tires (34x40 all around). Large brakes. Straight line shaft drive. Fully equipped. Touring car, Roadster, Suburban with removable rear seat, Coupe or Limousine Town Car.

TO DEALERS: This car is a winner. Your competitors will have to take off their hats to it.

The superb Marmon "Fifty" (with Seven-Passenger Body), $3,750.

Nordyke & Marmon Co. (Estab. 1851) Indianapolis, Ind.
Standard Mfrs. A. M. C. M. A.

(We will exhibit in New York only at Grand Central Palace Show, opening New Year's Eve.)

The Easiest Riding Car In The World

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A Franklin automobile made the only perfect score among fifteen entrants — all the others water-cooled — in the 210 Mile reliability run over the worst roads about Worcester, Mass., December 12. A blinding snowstorm increased the difficulties

You think you know what a comfortable automobile is, but do you realize all that comfort means? Do you know what makes it?

Every Franklin automobile has four full-elliptic springs hung so that they take up road shocks from every direction, not merely up and down—very few road shocks are directly up and down. These springs have a "movement" of 5⅞ to 6½ inches. The ordinary half-elliptic spring can move only two or three inches before the frame bumps.

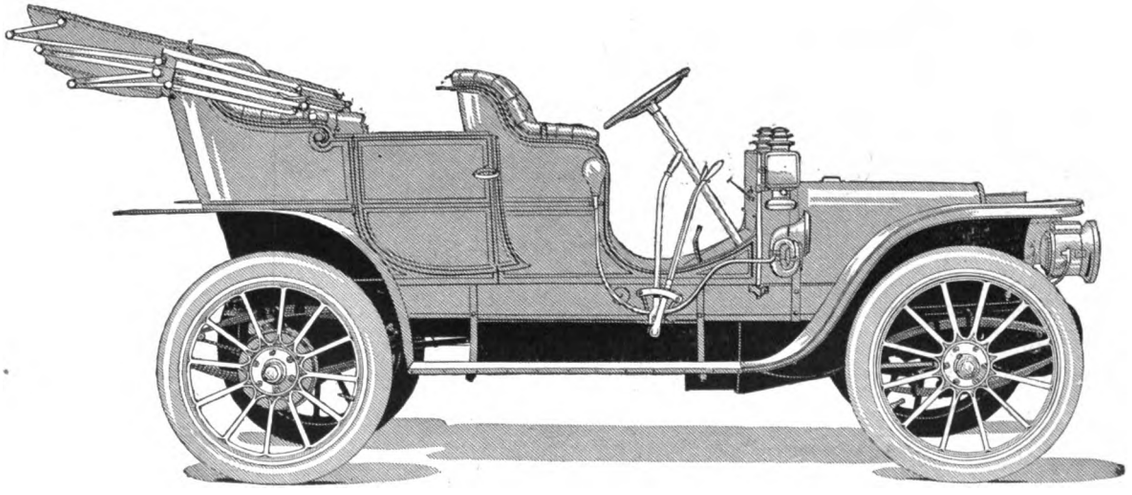
The Franklin laminated wood frame is a natural and scientific shock-absorber. It does not transmit shocks as a metal frame does. And every Franklin model has the largest wheels and tires in proportion to its weight. Large wheels help to make any vehicle ride easier. Everybody know that.

All this does away with jolting and jarring and vibration. It gives a luxurious riding-quality that you cannot get except in a Franklin automobile. And a light-weight automobile does not pound on the road.

Some makers of heavy automobiles declare that when their machines strike a bump in the road, they do not "bounce." This is probably true. Certainly the road does not give away to accommodate them. The question naturally arises: If the shock goes neither into the air nor the ground, where does it go? How much of it can possibly be absorbed by the steel frame and half-elliptic springs? How much is turned into a hard merciless "thump" and transmitted through the machine and to the passengers?

Ride in any heavy automobile over any road you choose.

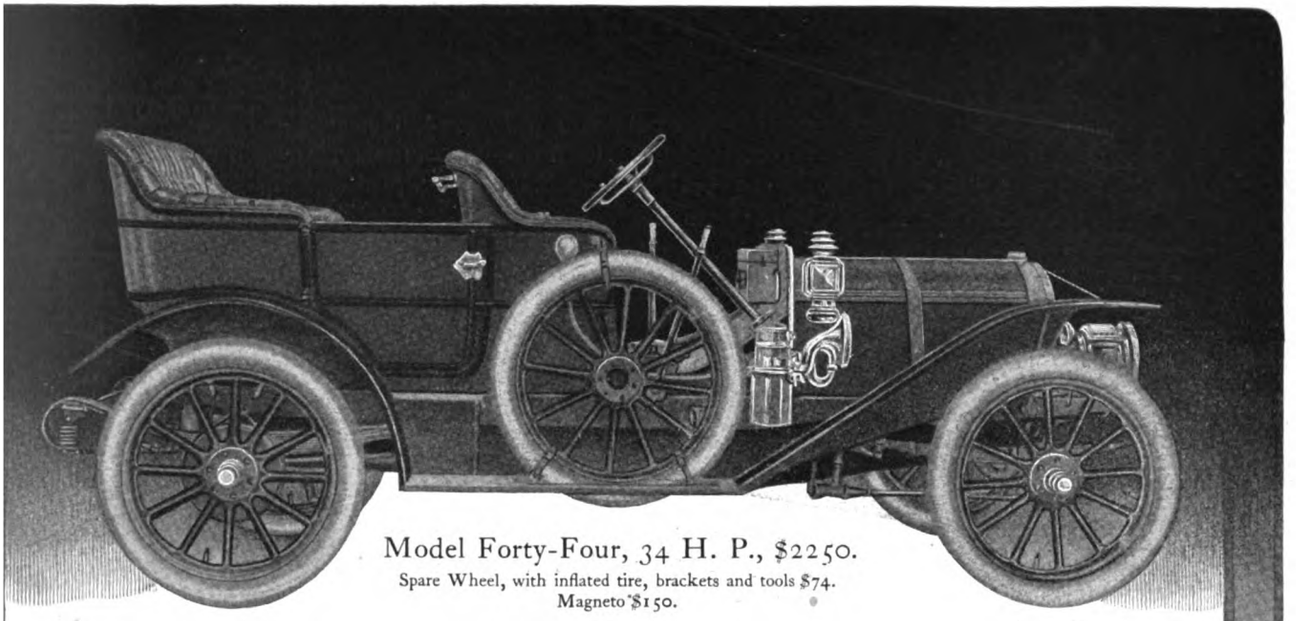
Then ride over the same road in a Franklin.



Franklin Model D five-passengers, 36-inch wheels, 106-inch wheel base. 2200 pounds. $2800. F.o.b. Syracuse. (Top extra.)

H H FRANKLIN MFG CO., Syracuse, N Y

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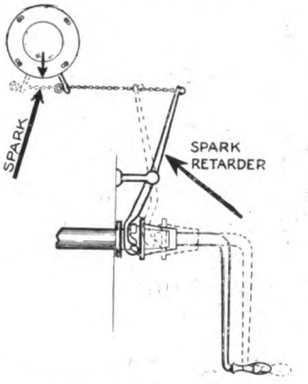


Model Forty-Four, 34 H. P., $2250.
Spare Wheel, with inflated tire, brackets and tools $74.
Magneto $150.

THE SAFETY SPARK RETARDER

There is absolutely no danger in cranking a Rambler when properly adjusted. The starting crank then cannot engage until the spark has been automatically retarded.

Every one who has had the unpleasant experience of a premature spark in starting an automobile will appreciate the Rambler safety starting device. This prevents an explosion ahead of center, even though the operator forgets to retard the spark.



You cannot engage the lug on the shaft with a tooth on the starting crank until the spark-retarder lever has moved from the position of the dotted line to the position shown, thus retarding the spark.

Rambler

The Car with the Offset Crank Shaft

Seven passenger model, forty-five horse power with offset crank shaft, $2500. Other models, $1150 to $2500. Write for catalog describing in detail Rambler offset crank shaft, Spare Wheel, straight line drive and other exclusive features of the new Rambler models.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory, Kenosha, Wis.

Branches and Distributing Agencies:

Chicago, Milwaukee, Boston, New York, San Francisco. Representatives in all leading cities.

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, December 24, 1908. No. 13

GENERAL MOTORS ASSUMES FORM

Olds and Buick Interests Form the Nucleus for New $12,500,000 Company—Par Value of Shares, One Dollar.

Despite numerous denials and considerable backing and filling, the General Motors Co., the much-rumored, mammoth, merger, holding company, is in being, having for its nucleus the Olds Motor Works of Lansing, and the Buick Motor Co., of Flint, Mich. The new company is incorporated under the laws of New Jersey and has a capitalization of $12,500,000, divided into $1 shares. While it has not yet come right out publicly and announced its existence and proposed program of operation, the stockholders of the Olds Motor Works have already been approached on the subject of trading in their Olds holdings for shares of the General company, on a basis which is calculated to occasion some surprise to those not familiar with the inside history of the affair.

Most surprising of all is the proposal that the Olds stockholders trade in their shares for 50 cents on the dollar so far as face values are concerned. For each share of Olds stock, the par value of which is $10, the new company is willing to exchange four shares of its preferred and one share of its common stock, the five shares together having $5 face value. Three-quarters of the total Olds stock is said to have been arranged for on this basis, and the scattered holders whose shares make up the remaining quarter are expected to see the light in due time.

The total capitalization of the new company is divided into $7,000,000 preferred stock, paying 7 per cent. cumulative dividends, and $5,500,000 common stock, each dollar representing a share. The division of the shares into such small financial units will make easy the distribution of a large portion of them to the general public in parcels to suit every purse. No town or hamlet will be so small but what its residents, through the local bank, can obtain some of the coveted stock, the fame of which will not suffer through any inadequate preparatory work.

As announced in the Motor World, the Buick and the Olds companies some time ago reached a most cordial understanding, even to the extent of the Buick company making the chassis for one of the Olds models, so that the confirmation of the rumors associating the two companies was not unexpected.

While the general facts concerning the enterprise are apparently widely known in Michigan and elsewhere, a great air of secrecy is still maintained at the office of the New York law firm having in charge the delicate task of launching it. In this work Attorney Curtis R. Hatheway is credited with much of the responsibility, he being an associate of Ward, Hayden & Satterlee, who have been mentioned prominently in connection with the previous merger flurries. When asked by the Motor World for the completed details he was more than cautious about even admitting the existence of the General Motors and declared that information concerning the participation of the Olds and Buick companies could not be given out "until the proper time."

Jackson Prepares to Produce Cars.

R. B. Jackson, formerly general manager of the E. R. Thomas Motor Co., of Buffalo, N. Y., has leased the factory in Detroit, Mich., formerly occupied by the Northern Motor Car Co., and is preparing to produce cars. As yet the plans in this connection are shrouded in some secrecy, but it is known that steps for the organization of a company have been practically completed. Quotations have been asked on power units and other parts, indicating that the output will be an assembled product.

Bosch Takes a New Building.

The Bosch Magneto Co., of New York, has moved to a new building at 223-225 west Forty-sixth street. The change was necessitated by increased business.

APPERSON CLINCHES HIS CLAIM

He Fortifies the Alleged Basic Patent on Multiple Ignition System—Will Now Assert His Rights.

An explanation developed this week as to why Elmer Apperson, of the Apperson Bros. Automobile Co., Kokomo, Ind., has not more vigorously asserted the strength of the alleged basic patent on multiple ignition for explosion engines which he purchased about two years ago and of which the Motor World gave a complete account at the time. Instead of weakening in his confidence as to the patent and its importance, Apperson has in the interim been further fortifying his position by taking out an additional patent of his own along the same lines, the latter patent being issued to him on the first of this month. Armed with the two, he proposes to notify all manufacturers, importers and dealers in the United States of the rights which he holds, and to prosecute those infringers who cannot otherwise be brought to a satisfactory adjustment.

The later patent is No. 905,625, filed July 3, 1906, and issued to Elmer Apperson on December 1, 1908, and dovetails with Patent No. 617,560, filed August 26, 1897, and granted to Ferdinand E. Canda, of New York, January 17, 1899, which Apperson bought on the advice of Thomas F. Sheridan, an eminent patent attorney. These patents cover broadly the use of two or more separate igniting devices provided with separate circuits with means for throwing the devices into or out of action simultaneously or independently, as well as covering the use of two or more spark plugs or sparking points having electrical connection with the magneto and battery with means for throwing the spark plugs or points into and out of operation.

It is claimed that the Apperson brothers were among the first in American to use what is termed the double independent sys-

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tem of ignition. After working some years to perfect this system, Elmer Apperson filed application for a patent, but it was found that the Canda patent interferred with it. As a result, Apperson bought the Canda patent to clear the way for his own, the two combining as a monopoly on this phase of automobile ignition.

The claims of the Canda Patent were given in full in these columns at the time of the purchase. Those of the Apperson patent just granted are as follows:

1. An explosion engine having a cylinder in which the explosion is adapted to ignite, a pair of spark plugs extending into the cylinder, a magneto, electrical connections from the magneto to one of the spark plugs, a battery, separate electrical connections from the battery to the second spark plug, and a switch for throwing the spark plugs into and out of operation.

2. An explosion engine having a cylinder in which the explosive is adapted to ignite, a pair of spark plugs extending into the cylinder, one of said spark plugs having a fixed spark gap, a magneto electrically connected with one of the spark plugs, a battery electrically connected with the other spark plug, a periodic circuit interrupter in the connection to the spark plug having the fixed gap, and means to control the connections to the spark plugs.

3. An explosion engine having an explosion chamber with two spark plugs therein, a magneto electrically connected with one spark plug, a battery electrically connected with the other spark plug, adjustable timers in the respective circuits, and means for adjusting the timers similarly and simultaneously.

4. An explosion engine having a cylinder in which the explosive is adapted to ignite, a pair of permanent spark gaps within said cylinder, a magneto electrically connected to the terminals of one spark gap, a battery electrically connected to the terminals of the other spark gap, and circuit interrupting device in each of said connections.

5. An explosion engine having a cylinder in which the explosive is adapted to ignite, a pair of spark plugs extending into the cylinder, a magneto in circuit with one of said spark plugs, an induction coil having its secondary in circuit with the other spark plug, and a battery in circuit with the primary of said induction coil.

Commercial Motor in Receiver's Hands.

The Commercial Motor Truck Co., of Plymouth, O., has been put into the hands of a receiver by the common pleas court of Richland county. The action was brought by the J. D. Fate Co., also of Plymouth, creditor for about $5,500 in borrowed money. The liabilities are estimated at over $30,000, while the assets are still in doubt. The concern has recently been negotiating with Norwalk, O., and other towns, looking to a change of location if sufficient inducements were offered. A. M. Trago, a Plymouth banker, was appointed the receiver.

BUICK ATTACKS THE INDUSTRY

In Ostensible Appeal for Lower Tariff They Make Radical Assertions—"Ridiculous-Bad Management" One of Them.

In lime-light distinction from the body of American automobile manufacturers, W. C. Durant, general manager of the Buick Motor Co., appeared before the ways and means committee at Washington, on the 19th inst., and said that the import duty on automobiles should be reduced from 45 per cent. to 20 per cent., while the duty on parts should be raised to 50 per cent. He disclaimed against the "enormous profits and the ridiculously bad management" which the present rate of duty fosters, according to his view, and labored with the committee long and earnestly to persuade it that the reductions he asked for should be made.

Some sharp colloquies took place between members of the committee and the would-be tariff reducer, in which he was more or less roughly handled. When he began pressing the committee for concurrence with his opinions, he developed an outburst from Chairman Payne.

"Oh, so far as your argument about this excessive protection is concerned," said Mr. Payne, "the committee is convinced that the 20 per cent. you ask would be sufficient. But can't you give us figures as to what the effect of this reduction would be on the revenues of the Government? We are looking for articles that will be fit subjects for a high duty to counteract the annual deficiencies."

"I don't think it is right," replied the witness, "to make us come here and testify our sources of income out of our pockets."

"We didn't ask you to come," said Mr. Payne. "We said we would be glad to hear you. What we want is facts, and we don't seem to be getting them."

A question from Mr. Boutell drew forth an answer that came as a great relief to the protectionists on the committee. By a reference to former testimony on this schedule, Mr. Boutell said it was apparent that the Buick company was preparing to start a factory abroad. His direct question on the subject failed to elicit a direct response. He pursued his inquiries, with the following result, as given by the official record:

Mr. Boutell—I asked if it was the intention of the Buick Motor Co. or parties in interest in it to build an automobile factory in Europe?

Mr. Durant—At this moment I could not answer that question, yes or no.

Mr. Boutell—There is no use fencing with the committee. If you do not want to state you need not, but it was stated here by your attorney that it was contemplating building a factory in Europe. That may explain what would otherwise be unintelligible, why you wanted a reduction in the duty, and I simply asked you, as the general manager, whether that was true. With the reduction in the duty, and the difference between the ocean rates and the railroad rates it would be apparent that there was a very good business reason for your advocating a lower duty.

Mr. Durant—It would not be likely that we would want to destroy our own home trade by reducing the tariff to permit of our manufacturing abroad, where we have no special interest.

Mr. Boutell—But that is not answering the question, whether you expect to begin manufacturing abroad or not.

Mr. Durant—No, sir.

The Chairman—We have heard the gentleman for half an hour; we have not been able, in the last five minutes, to get any facts out of him. He approves of the statement of Mr. Joy, so far as the facts are concerned. I do not know why we should lose any more time Saturday afternoon, and therefore we will excuse you, if you will allow us to. (Laughter.)

Mason Motor to Reorganize.

Re-organization of the Mason Motor Car Co., of Des Moines, Iowa, will soon be effected, together with an increase in the capitalization from $50,000 to $250,000. The change will alter the name of the concern to the Mason Automobile Co., and A. B. Shriver, a Winterset banker, will probably be made president, E. R. Mason will give his entire attention to the sales management while F. S. Dusenberg will have charge of the manufacturing end.

Banks Bid in the Dolson Plant.

The sale of the property of the bankrupt Dolson Automobile Co., of Charlotte, Mich., on the 14th inst., was of doubtful success. Some complete cars were disposed of to one bidder, while another took some of the parts and junk, but three of the local banks bid in the plant and other property to protect their loans, as cash customers were lacking. It is estimated that ultimately the Dolson creditors will get about 15 per cent.

Coats to Manage Lexington Company.

Fred N. Coats, of Dayton, O., has been selected as general manager and secretary of the newly incorporated Lexington Motor Car Co., which is shortly to begin the manufacture of cars in Lexington, Ky. For over two years he has been assistant sales manager of the Dayton Motor Car Co., of Dayton.

Packard Elects Walton General Manager.

At a recent meeting of the Packard Motor Car Co., Detroit, Mich., the following officers were elected: H. B. Joy, president; R. A. Alger, vice-president; Philip McMullen, treasurer; S. D. Waldon, general manager. The promotion of Mr. Waldon from sales manager to general manager is very gratifying to his many friends.

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WHY HE FAVORS REDUCED TARIFF

Durant's Contrary Attitude Causes Discussion—"Spite Work" and Shrewd Campaign Among Allegations.

Although it has been stated that his appearance before the Ways and Means Committee at Washington to urge a reduction in the tariff on automobiles is due to intention to establish a factory abroad, this is not the generally accepted reason for the attitude assumed by W. C. Durant, the directing head of the Buick Motor Co.—an attitude which directly is at variance with the practically unanimous sentiment of the remainder of the trade and opposed to the fact that Durant himself has advanced the list price of at least one of his models.

"Spite work" is the opinion expressed by a number of those who know him. "A play for gratuitous advertising" is the belief held by others who know him better. "An effort to pave the way for the unloading of the General Motors Co.'s $1 shares on the dear public" is a third explanation that has been advanced.

Those who hold the "spite work" opinion ground it on the bad standing of the Buick Motor Co. in the Association of Licensed Automobile Manufacturers due to its failure to meet its obligations and pay its royalties for nine months or more and which has caused the doors of both of the New York shows to be closed to Durant's concern.

"Personally, I do not believe that Durant at heart either wants or believes that the tariff will be reduced," is the way one man in the trade voiced his views. "He simply is trying to 'get even' with the A. L. A. M. by endeavoring to hurt its members by increasing the volume of competition from abroad and is so fixed in his determination to do so that apparently he doesn't care who else he hurts."

Durant's reasons for refusing to meet the Buick obligations to the Association is one of the things that has been difficult of understanding as it is a matter of general belief that no other concern has profited so greatly from membership. As Buick is one of the very few members who produces a cheap car, the exclusive agency policy of the A. L. A. M. has assisted in getting it a reputation and to "simply walk into business," as it once was expressed.

"Durant's refusal to live up to his contract is purely a matter of cold blooded deliberation," remarked a man of prominence in discussing the subject. "Apparently he believes that he has obtained from the A. L. A. M. all that he can obtain and now figures that if the Selden license is not sustained by the court he will be ahead the amount of his company's default, while if it is upheld all he will be obliged to pay will be the amount of royalty exacted from all other manufacturers based on the figures now exacted and which his company contracted to pay, but has not paid."

"But has not the Buick company rendered itself liable for breach of contract?" was asked.

"Undoubtedly. But Durant already has been hit upon his defense. He will allege that the A. L. A. M. has not done all that it agreed to do and that therefore he was induced to become a member by misrepresentation."

Whether the fact that Buick became a member not by direct election, but by purchase of the license of a retiring member—the Pope-Robinson company—has a bearing on the subject remains to be seen.

"Bless your soul," laughingly exclaimed another man when Durant's appearance at Washington in the role of tariff reducer was mentioned. "Are not you people in the newspaper business 'onto' Durant's game? He simply is 'working' all of you, daily papers and weekly ones. He believes in advertising, but not in paying for it. He doesn't even believe in hiring a press agent. He considers that he is his own best press agent. 'Do something spectacular and the —— — —— will be forced to notice you,' is the remark I've heard attributed to him several times. I am told that before one of the recent big road races Durant told some of his intimates that he would show them how to do it. At any rate after the finish of this race, which his car did not win, he made a spectacular display of his roll and peeling off $500, he presented it to his driver in front of the press stand. The Associated Press and some of the automobile papers 'fell' for the grandstand play and scattered news of it broadcast. 'Didn't I tell you I'd make the —— — —— notice me?' Durant is said to have exultantly remarked to his intimates a few days later. Durant is a mighty shrewd man and to my way of thinking, in apparently opposing the practically united trade, by appearing before the tariff committee at Washington he merely is doing the spectacular and getting a lot of free advertising at the newspapers' expense. Any time he buys advertising space, it is well to look behind it."

That his tariff attitude is part of the game to help sell the stock of the General Motors Co., which he engineered, is not so evident, but there are those who, nevertheless, believe such to be the case.

They point out that Durant is no stranger to stock market operations. For some time he maintained an office in New York in the Wall Street district. The fact that the General Motors stock is to be offered in $1 shares indicates plainly that they are for public consumption and those who hold the stock market view of Durant's attitude point out that anything which serves to impress the name Buick on the public mind will serve to further the sale of the merger's stock; for Buick has enjoyed a prosperous year and will be able to make a tempting showing in any prospectus which may be issued. These people argue that the establishment of a great chain of Buick branches including the big cities and almost innumerable small ones where the prospect of enduring profit would seem doubtful is but another move in the shrewd campaign to sell the General Motors stock. During the past year Buick, they say, has made a specialty of courting the favor of small banks. The company has borrowed freely, and though it may have defaulted payment of Selden royalty, it has promptly met all banking obligations and thus become a desirable credit. Its paper is in demand by the small banks and the report is current that from some source or other they have been confidentially tipped off that they will be wise if they get in early and avoid the rush for General Motors stock. As a result, it is said that more than a few country bankers have visited Buick headquarters and that the knots in the strings of their dough bags have been considerably loosened in order to promote quick action at the proper moment. In sequence, the greater the number of Buick branches the greater the number of small banks in which Buick money will be deposited and the greater the radius of Buick influence and the wider the market for General Motors shares.

Cuba a Market for American Cars.

According to William Mitchell Lewis, president of the Mitchell Motor Car Co., who has just returned from a brief trip to Cuba, the market for American motor cars of medium price may be expected to develop a very decided increase in that quarter within the next few months. He even predicts that during the coming year over 50 per cent. of the cars shipped to Cuba will be of American manufacture, whereas in the importations of the past they have not exceeded 10 per cent. of the total number. The old condition of things was largely due to a lack of American agencies in Havana. James W. Gilson, sales manager of the Mitchell company who accompanied Mr. Lewis was even stronger in announcing his convictions of the Cuban possibility.

"Cuba affords one of the best fields for the medium-priced American car," he said. "The tobacco and sugar planters are coming into their own again, and they are willing to spend money. The Cuban roads are on a par with our best boulevards, but the planters have been using horses to ride from their plantations to their homes. Their use of the horse for pleasure purposes will be a thing of the past in a few years.

Enlarging New Process Factory.

After two months of night work in its plant, the New Process Raw Hide Co., of Syracuse, N. Y., has contracted for an extensive addition to its factory. The building, which will be of steel, brick and cement, will consist of two stories and a basement, yielding 13,000 square feet more floor space.

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The Week's Incorporations.

Steubenville, O.—Automobile and Motor Boat Co., under Ohio laws, with $10,000 capital.

Detroit, Mich.—Crescent Motor Co., The, under Michigan laws. Increase of capital from $55,000 to $125,000.

Billings, Mont.—Public Motor Co., under Montana laws, with $30,000 capital. Corporators—J. C. West, et al.

Cleveland, O.—Lake Avenue Automobile Co., under Ohio laws, with $30,000 capital. Corporators—Edward J. Hobday et al.

Janesville, Wis.—Pierson Garage Co., under Wisconsin laws, with $1,000 capital. Corporators—Roy Pierson, N. L. Carle and A. L. Avery.

New York City, N. Y.—Club Taxi Co., under New York laws, with $1,000 capital. Corporators—T. Hopkins, E. L. Mooney and J. J. Robinson.

New York City, N. Y.—Monarch Storage Battery Co., The, under New York laws, with $50,000 capital. Corporators—A. D. Thornburn, R. B. Hopkins, New York; R. W. Phelps, Buffalo.

Aurora, Ill.—Bell Carburetor Co., under Illinois laws, with $12,000 capital. Corporators—Henry H. Evans, Edward R. Conklin, and Charles E. Bell.

Oshkosh, Wis.—F. S. Hoaglin Auto Co., The, under Wisconsin laws, with $10,000 capital. Corporators—F. S. Hoaglin, A. E. Badger and L. O. Chase.

La Junta, Colo.—La Junta Automobile Co., under Colorado laws, with $10,000 capital. Corporators—R. S. Anderson, George H. Little, and Katie Posz.

Oklahoma City, Okla.—Fritz Brothers Auto Co., under Oklahoma laws, with $40,000 capital. Corporators—C. D. Fritz, E. J. Fritz and R. W. Yantis.

Greensboro, N. C.—Atlantic Motor Co., under North Carolina laws, with $25,000 capital. Corporators—H. L. Hopkins, L. B. Hopkins and Thos. S. Beall.

Paterson, N. J.—Ford Automobile Co., under New Jersey laws, with $10,000 capital. Corporators—Robert W. Bates, Geo. M. Dorwart, Jacob Vanderclock.

Salem, Mass.—Auto Lighter & Equipment, under Massachusetts laws, with $100,000 capital; to deal in automobiles. Treasurer, A. L. Messer, Salem, Mass.

Lexington, Ky.—Lexington Motor Car under Kentucky laws, with $50,000 capital. Corporators—Kinzea Stone, F. F. Bryan, John Osborne, J. P. Jackson, et al.

Milwaukee, Wis.—Monarch Motor Co., The, under Wisconsin laws, with $20,000 capital. Corporators—John Godfrey, William W. Welch, and Inez N. Welch.

Belfast, Me.—Read Garage & Machine Co., under Maine laws, with $10,000 capital. Corporators—C. E. Read, president; H. Chenery, treasurer; and R. I. Morse.

Brooklyn, N. Y.—Plaza Garage Co., The, under New York laws, with $5,000 capital. Corporators—Justin Bloch, Edgar Bloch and Alexander Clement, of Brooklyn.

Minneapolis, Minn.—Brown Emergency Tire Co., under Minnesota laws, with $100,000 capital. Corporators—Henry W. Nath, Lewis N. Klove and Theodore H. Brown.

Cleveland, O.—Western Reserve Motor Car Co., under Ohio laws, with $50,000 capital. Corporators—J. H. Price, R. B. Cason, G. L. Ginther, E. T. Smith and C. H. Bunde.

Cleveland, O.—Citizens Taxicab Co., under Ohio laws, with $50,000 capital. Corporators—Francis J. Wallace, J. Carr Brown, Frank L. Smith, George H. Jackman, et al.

Portland Me.—F. & D. Manufacturing Co., under Maine laws, with $400,000 capital; general automobile business. Corporators—C. E. Eaton, president; T. L. Croteau, treasurer.

Wilmington, Del.—Morgan Motor Car Co., under Delaware laws, with $500,000 capital. Corporators—E. L. Squire, K. M. Byrne and J. A. Byrne, of Wilmington, incorporating agents.

Rockford, Ill.—Standard Auto Co. of Rockford, under Illinois laws, with $10,000 capital; to deal in and repair automobiles. Corporators—S. O. Widell, John Wester and S. Leon.

Charlotte, N. C.—Mecklenburg Auto Repair Co., under North Carolina laws, with $5,000 capital authorized and $1,000 subscribed. Corporators—L. E. Davis, G. W. Webb and E. T. James.

Trenton, N. J.—Sharp Arrow Automobile Co., under New Jersey laws, with $125,000 capital; to manufacture automobiles. Corporators—William H. Sharp, Job R. Farlee, and Fred W. Bennett.

Brooklyn, N. Y.—Prospect Heights Motor Co., under New York laws, with $25,000 capital; to manufacture and deal in automobiles. Corporators—R. L. Kelly, T. F. Reilly and L. C. Howard.

Summit, N. J.—Summit Motor Car Co., under New Jersey laws, with $5,000 capital; to manufacture automobiles, bicycles and supplies. Corporators—Howard I. Day, Rosalie Nelson, Harry Baldwin.

Far Rockaway, L. I.—Savoy Auto and Taximeter Cab Co., The, under New York laws, with $30,000 capital. Corporators—Max Katz, L. T. Walter, Jr., Frederick Fitter, Robert Smith and A. W. Fitter.

New York City, N. Y.—Eureka Taximeter Cab Co., under New York laws, with $25,000 capital; to manufacture, deal in, and rent automobiles. Corporators—H. M. Browne, F. W. Mills and E. J. Forhan.

Joliet, Ill.—Van Guard Manufacturing Co., under Illinois laws, with $25,000 capital; to deal in and manufacture automobiles and general machinery. Corporators—Charles F. Jensen, Edward W. Steinhart and Nathaniel L. Hurd.

In the Retail World.

The Knox Automobile Co. has leased a new three-story building at 1458 Michigan avenue, Chicago, Ill. The contract specifies a five-year term.

The Strong Automobile Co., 109-111 East Walnut street, Des Moines, Iowa, will move to the west side of the river after January 1. The exact location has not been determined.

D. G. Meter, of Milwaukee, Wis., has leased the former Elite Stables on South Washington street, Green Bay, and opened a garage. He handles the local Reo business for that territory.

Fire in the garage of the C. M. Automobile Livery, 5 Park Row, Chicago, Ill., on December 17, destroyed five automobile. The loss, including damage to adjacent property was estimated at $10,500.

J. M. Skinner, of Lansing, Mich., has organized the Standard Auto Co., and will open a garage in the old Bijou building on Ottawaa street about February . He has secured the agency for the Oakland cars.

The Anderson Vehicle Co., Fond du Lac, Wis., purposes the erection of a 30x105 foot garage in connection with its present office and store building on West Second street. The plans call for a $20,000 outlay.

Rolvin S. Whitney, of Brunswick, has purchased from James W. Skene his garage at 88 Bates street, Lewiston, Me. Skene, who has held the business for over eight years, was the first automobile dealer in the State.

Harshberger & Jantze have rented the east room of the building occupied by Perry Bradley as a blacksmith shop in Seward, Neb., and will open a garage shortly. The firm was formerly in the automobile business at Aurora.

The Boston Branch of the Locomobile Co. of America has removed from its former location at 400 Newbury street to its new quarters at 589 Boylston street. The new location is within the exclusive precincts of Copley Square.

Harry C. Bacon, formerly with a local agency, has become identified with Mason B. Hatch, 729 Main street, Buffalo, N. Y. The latter is distributor of the Chalmers-Detroit cars for western New York and northern Pennsylvania.

Harry Corson, formerly with the E. R. Clark Automobile Co., Springfield, Mass., has taken the local Ford agency which was given up by the Norcross-Cameron Co. He is located in the garage on Winchester Square, formerly occupied by the Stowe & Coffer Automobile Co.

The S. H. Petersen Automobile Co., formerly located at 2253 Cottage Grove avenue, Chicago, have recently moved into the heart of the automobile district in that city and opened new quarters at 1229 Michigan avenue. Their representation is the Waverley electric and Gyroscope gasolene lines.

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ANOTHER BLOW AT PRICE CUTTING

Weed Gets Second Court Decision Sustaining Right to Fix Quotations—How Patents and Copyrights Differ.

Another victory has been won by the Weed Chain Tire Grip Co., of New York, in its campaign to establish the right of manufacturers of patented articles to control the prices at which their products may be sold. The action was against the E. J. Willis Co., of New York, and has so far resulted successfully despite the recent decision in the so-called "Bobbs-Merrill Copyright Case" which has been hailed by price cutters as being a complete knock-out to the control of retail prices by manufacturers.

Having taken no lesson from the results of the successful Weed suit against the Times Square Automobile Co., of New York, for selling Weed chains at prices lower than those designated on the containing bags and on the metal tags attached to the chains themselves, the Willis company since that time and since the decision in the Bobbs-Merrill case, was found selling the Weed grips at cut prices. Upon notice it declined to desist, and when brought to task in the courts did not deny the practice, but asserted in defense that the chains were bought in the open market from others than the Weed company, and, further, that the Supreme Court of the United States, in the Bobbs-Merrill case, had held that the copyright law is not broad enough to protect the retail price designated in the conditional sales notice printed in a copyrighted book, the Willis attorney advancing the hypothesis that the retail price on patented articles could not be maintained in the face of this decision.

The difference between patented and copyrighted articles, however, was made plain by a quotation from the United States Supreme Court in the case of Bement & Son vs. National Harrow Co., as follows:

"The very object of these laws (the patent laws of the United States) is monopoly, and the rule is, with a few exceptions, that any conditions which are not in their very nature illegal with regard to this kind of property, imposed by the patentee and agreed to by the licensee for the right to manufacture or use or sell the article, will be upheld by the courts. The fact that the conditions in the contracts keep up the monopoly or fixed prices does not render them illegal." . . . . "The provision in regard to the price at which the licensee would sell the article manufactured under the license was also an appropriate and reasonable condition. It tended to keep up the price of the implements manufactured and sold, but that was only recognizing the nature of the property dealt in, and providing for its value as far as possible. This the parties were legally entitled to do. The owner of a patented article can, of course, charge such price as he may choose, and the owner of a patent may assign it or sell the right to manufacture and sell the article patented upon the condition that the assignee shall charge a certain amount for such article."

Although Judge Coxe, of the United States Court of Appeals of the Second Circuit of New York, was one of the judges before whom the Bobbs-Merrill case came in its progress when it was decided that the copyright law was not broad enough to protect the retail prices on copyrighted books, in the case against the Willis company he declared for the plaintiffs, stating that he felt "constrained to follow this (Weed vs. Times Square Co.) decision," and granting a motion on November 20 for a preliminary injunction.

Odd Cause of a Garage Fire.

That a gasolene can in bad condition is a very dangerous affair and that an iron stove in the vicinity is equally hazardous when it contains live coals, was demonstrated on Sunday last, 20th inst., when a bad fire occurred at Brighton, Mass. Two frame buildings and their contents, among them nine automobiles, were destroyed by flames and an explosion, and adjacent property damaged, as a result of a mishap which happened when Harry Gavel was carrying gasolene through his frame garage on Beacon stret. It seems that while walking past the stove, the handle on the 5 gallon tank broke off, causing the tank to drop to the floor and splash the gasolene. The building was instantly in flames and Gavel, who endeavored to get some of the cars out of the place, was badly burned. His stock of four automobiles was totally destroyed.

The damage to property owned by various persons, was estimated at $25,000, which points out a moral regarding open grate stoves in frame garages.

Louisville Prepares for a Show.

To hold an automobile show in Louisville, Ky., the dealers have organized themselves into the Louisville Automobile Dealers Association, with a complete paraphernalia of constitution and by-laws. Prince Wells has been chosen president; E. G. Reimers, vice-president, and Hubert Levy, secretary-treasurer. The show will be held April 15, 16 and 17, in the Coliseum.

Rambler Manager for Cleveland.

George Patterson has been selected to manage the branch of Thomas B. Jeffery & Co., in Cleveland, O. For the present the Rambler headquarters will be at 2158 E. Ninth street, but will probably be located on Euclid avenue a little later.

Death of President A. W. Tobin.

A. W. Tobin, president of the Continental Motor Co., of Muskegon, Mich., died in Chicago on the 13th inst. His death was caused by quick pneumonia.

NEW POPE COMPANY ORGANIZES

Directors Elect Board of Officers Headed by Albert L. Pope—Creditors of Old Company Paid in Full.

Final transfer of the property, business and assets of the old Pope Mfg. Co. to the reorganized company took place on Wednesday, the 23d inst., on which date checks for a final payment with interest at 6 per cent. were also sent to all the creditors having approved claims against the old company. The order for the transfer was received from the New Jersey court the day before. At a meeting of the directors of the new company, held in New York City late last week, the officers were chosen, with Albert L. Pope as president; Charles E. Walker, vice-president; Colonel George Pope, treasurer; Wilbur C. Walker, secretary, and Ezra M. Cutting, assistant treasurer. Harry Bronner was elected chairman of the board of directors and the firm of Joline, Larkin & Rathbone made general counsel.

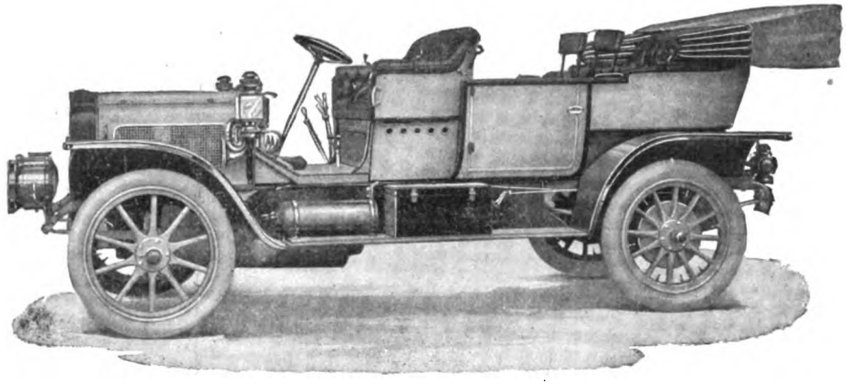
The payment of the creditors' claims with interest for the period of delay marks a triumph for the receivers, Albert L. Pope and George A. Yule, in completely carrying out the task that they set for themselves when the duties of straightening out the old company's affairs devolved upon them. The reorganized company, with its manufacturing concentrated at Hartford, Conn., and Westfield, Mass., is in a position to go forward on the most successful lines, the prosperity and future of the concern having been well conserved during the receivership. The new Pope Mfg. Co. thus takes up its career enjoying the most favorable regard of the trade and with its factories more than busy on production for which markets have been assured by enterprising preparation.

Non-Freezing Mixtures that are Taxable.

Dealers preparing a stock of "non-freezing mixture" for the use of their customers have reason to be careful both as to the quantity and the constituents of the compound, as otherwise they are likely to come into contact with the United States government internal revenue officers. The commissioner of internal revenue at Washington, has just rendered a decision to the effect that a special government tax must be paid by dealers or garage proprietors who keep on hand for sale any "non-freezing mixture" which contains even so much as 30 per cent. alcohol. The commissioner, if he knows it, will not permit dealers in automobile supplies to put on the market any new, intoxicating drink which as "non-freezing mixture," might find popularity with thirsty chauffeurs in prohibition States. The decision was given at the request of the collector at Boston.

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THE
MODEL "M" WHITE STEAMER
Is The Most Luxurious Car On The Market



The luxury of the White Steamer is unequalled by any other machine. There is no car, however expensive, which has better upholstery, better springs or better finish. Owing to the compactness of the mechanism, the body is much more commodious than in any car of similar wheelbase, (122 inches). Few other makes have such a liberal tire equipment (36x4 on the front wheels and 36x5 on the rear wheels.)

The luxury of any car, however, depends largely upon its riding qualities and here the White is "in a class by itself." It is the only car where starting and changes of speed can be effected without jerks or jolts. It is the only car which runs noiselessly under all conditions. It is the only car which is free from vibration, because it is the only car where the power is applied evenly and continuously, and not spasmodically.

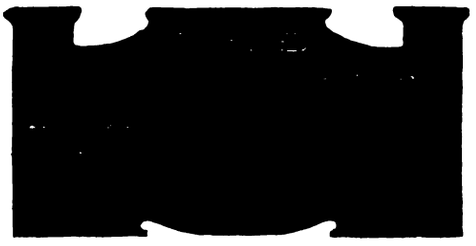
Just as our Model "M," priced at $4,000, is the most desirable of the higher-priced cars, so our Model "O," at $2,000 predominates among moderate priced machines.

Write for descriptive matter.

THE WHITE COMPANY
CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.
PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.
CHICAGO, 240 Michigan Ave.
SAN FRANCISCO, Market St. at Van Ness Ave.
ATLANTA, 120-122 Marietta St.

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NEW YORK, DECEMBER 24, 1908.

" . . . . By the way, I like the Motor World. It gives the kind of stuff the dealer wants to know, and you ought to hold your own long after the general public stops reading automobile papers."
NEW YORK SPORTING GOODS CO.,
James E. Murray, Secretary.

The New York Show Numbers of the Motor World will bear dates of December 31st, January 7th, 14th and 21st, respectively. The first two will interestingly and comprehensively forecast and describe the exhibition of American Motor Car Manufacturers Association, and the other two do similar duty for the show of the Licensed Association of Automobile Manufacturers. As usual, the Motor World's reports of both shows will deal with goods actually exhibited and will not comprise mere trade puffs or extracts from catalogs written weeks before the doors of the exhibition halls are opened.

About Attendants at the Shows.

As the show season approaches it is well to voice a plea on behalf of the show visitor, be he the casual and curious lounger, the potential customer or the minor tradesman seeking information which is of personal interest to him. It is a sad part of show history—perhaps an indispensible part—that not a few of those who are placed in charge of exhibits frequently display a blend of indifference and ignorance concerning the wares of which they are in charge at once discouraging and disheartening to encounter. Indeed so great has been the evil in former years that it has excited repeated comment during the show season and afterwards. Because there is a reason for the poor attention shown to many visitors, however, and because there is a remedy for it, it is regrettable that the evil should be permitted to continue.

Indifferent stand attendants may be divided into two classes. The eager and ignorant class, who are obviously taken on only for the show and have not been sufficiently trained in their line, and the experienced but lofty and preoccupied men, who are too busy with their own affairs to attend properly to the wants of the stranger.

It should be added that as the shows draw to a close and all who form a part of their human element are thoroughly wearied of the continual clamor and din, the familiar air of abstraction and the uninterested shake of the head in response to an inquiry are more or less to be expected, for stand attendants are much badgered with foolish questions in the course of the week, and become thoroughly accustomed to false alarms in the way of prospects. But during the earlier portions of the shows, there is no excuse for rendering anything but the best of treatment to intelligent and courteous visitors, and any breach of courtesy or lack of information on the part of the exhibitor may be regarded justly as an affront, for as a practical man the attendant must be willing ever to exploit his wares to the full and on the slightest and most frequently repeated provocation.

Of the ignorant attendant, this much is to be said, that he frequently performs to the best of his ability. Yet that is not always all that is required. Frequently the man who knows too little, tells too much, and when after hesitating about applying to certain busy heads for particulars about the product he applies to the ever-present and wise "factory expert" for information—and gets it—he is unable to distinguish between what is good fuel for the show fire, and what should be held in reserve or not used at all. Furthermore, his ignorance often leads him into misstatements and inaccuracies which, however slight, are more provoking and more harmful than his absolute ignorance would be. Usually he is useful because he is handy to pick for a few days, a glib talker, maybe something of a salesman, and last, but not least, is cheap. Yet it is questionable, all things considered, really how cheap he is sometimes.

Of the real expert who is absorbed with the affairs of sociability and business deals, so much so that he cannot spare time to talk to a stranger without an appointment, and who frequently neglects to fulfil such engagements when made, perhaps there is less to be said. As a rule they are their own masters to a degree and if they err, in this respect, it is an error in judgment or zeal rather than in knowledge. Yet were it understood among the individual exhibitors that during the entire working period of the show their forces were to be divided into relays; the workers do nothing but work, and the relays to keep away from the exhibits—there might be less cause of complaint. It is the tendency to mix too many kinds of business that renders the show at times unprofitable to the visitor.

Unfortunately the shows of the past have partaken of the three qualities of grand spectacle for the general public, exposition for the wholesale and retail buyer, and general trade exchange or mart. The three qualities so mingled do not conduct to an atmosphere which is over beneficial to either one. Were the manufacturers exhibiting to take this condition seriously into account in arranging their plans, however, it might be possible to secure better results all around, to contrive to find more time for the many little business details which require attention, and to afford the visitor a better opportunity of gaining the knowledge he requires in the briefest, most cogent manner.

Now that the American Automobile Association has abandoned automobile contests on horse race tracks, it would be interesting to know what is to be the standing of the course which had formerly held that status, but which is banked at the turns with cement or otherwise for the purpose of one or two specific automobile meets. Also it would be interesting to know what action if any, is to be expected in regard to the standing of contestants participating in races held on these courses, whether altered for the purpose or not.

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COOPERATION IN BODY BUILDING

Automobile Builders and the Body Makers Working to Reduce Weight—Problems of Materials and Construction.

Of the vital subject of body design in its relation to vehicle development, altogether too little has been said in the past, and the attitude of the makers in general has been one of perhaps too much independence from the craft of carriage builders, who, alone have the experience and traditions necessary to evolve the proper combination of structural durability with harmony of line and convenience of accommodation. In this connection important work is being done by the Association of Licensed Automobile Manufacturers through its mechanical branch, in seeking the co-operation of the carriage builders' associations with a view to improving the breed of automobile body. Coker F. Clarkson, secretary of the branch, tells something of the progress which has been made in this direction, in a recent interview.

"One of the most important branches of the complex automobile industry is undoubtedly that connected with the body," he remarks. "When the first gasolene machines made their appearance, the questions of comfort, appearance and durability in body work were relatively neglected. There were a few American carriage builders with sufficient foresight to perceive the trend of events, banish their prejudices and meet the demand of the automobile manufacturer and user more than half way.

"Wood still plays an important part in high-class automobile body work. And if satisfaction is to be given, it is essential to employ none but carefully selected and thoroughly dried pieces. All the wood is many years old. It is stocked in buildings, ventilated by a special system, and packed layer on layer with joists between, in order that the drying process can continue evenly. The entire stock is examined every year and turned. At least five years elapse from the entry of a piece of wood into the factory, before it is cut up for use.

"There is nothing mysterious in good coach work, although it is surprising to find the great number of parts required to build up a limousine or landaulet, the strength of the iron work and the tremendous number of coats of paint. The paint on a large limousine body weighs much more than the average man would say; as much as 75 pounds and more. The painting and trimming of the car is in material degree specialized work. Good painting cannot be done on other than a good foundation, with the proper graduation of the several coats of paint and varnish.

"The strains to which a motor car body is subjected are greater than and considerably different from those in the case of a horse-drawn vehicle. No one engaged in making cabinets, furniture, house or other stationary fittings, could have any knowledge derived from the practice of his own business of what is necessary for the automobile. The framing of the timber, the use of panels, not merely as enclosures, but as trusses supporting the external framing, the hanging of the doors and provision for the clearance for paint, etc., have to be studied specially. The supposition that springs can give ease of riding when comparatively little attention has been paid to the form or material of the body and its trimmings is responsible for much discomfort.

"The Mechanical Branch of the Association of Licensed Automobile Manufacturers has held meetings with representative carriage makers, to see whether the latter can reduce the weight of bodies to any extent, and to interchange ideas on other interesting subjects on which the automobile engineer and the body maker are working. The Carriage Builders National Association was founded 35 years ago, and over 25 years ago established a technical school in New York for the instruction of carriage draftsmen. The idea of this school is to turn out men who can take a draft and work from it; or go back to the bench as workmen, their wages being increased by their technical knowledge; or later on, perhaps, secure employment as draftsmen distinctively. You can take two men and put them side by side in construction; let one man know his business, understand just how the thing should be proportioned; he will turn out a body that will be stronger and better than the man at the next bench; and there will be 100 to 150 pounds less weight in the product of the good man.

"One serious thing that the automobile and the body maker have been up against is the man wants to have a body built that will carry one person with the springs riding easily, in which he can pile eight or ten people and have the springs ride just as easily; which is somewhat like making a linen duster and a fur coat out of the same cloth.

"The makers of wood automobile bodies will not acknowledge that bodies made of aluminum are lighter than those made of wood; but maintain that the real state of facts is the reverse. By the use of templets practically, some excellent bodies are now being turned out with very great rapidity.

"The question of metal panels on bodies has another feature besides weight. One of the things that has troubled the carriage manufacturer is cracks and splits in the panels; which aluminum or sheet metal construction eliminates. The extreme heat and cold of a country are factors to be considered. A body built for example, in England, France, Germany or Austria, which have moist climates, different from ours, may last there for years, and give trouble here, in steam-heated garages, etc., by what is called 'opening up.' This is one reason why it is customary to kilndry lumber here, whereas abroad anything but air-dried lumber is rare or unknown. Moreover, the kind of wood generally used in this country has a lower coefficient of contraction and expension, besides being somewhat stiffer.

"Some body makers use aluminum coated steel for panels, to avoid checking in painting and what is known among painters as 'graining out.'

"As a rule automobile bodies are lighter than a corresponding body on a horse-drawn vehicle; for example, the rocker plate and sills of an ordinary landau, which weigh 160 pounds, are eliminated in an automobile body.

"The American carriage builders are now thoroughly aware of the changing character of their trade and welcome the automobile. They appreciate keenly the business of the automobile factories and are willing to work with them in every way. The members of the Licensed Association are pioneers in this co-operative work as in many others. When the automobile started, the average carriage maker pooh-poohed it and would not take hold. In Europe no automobile maker has ever built a body, probably, except one German firm who built a low-priced body."

COMING EVENTS

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 1, 1909, Los Angeles, Cal.—Automobile Dealers Association's 24 hours race, Ascot Park.

January 1-2—Quaker City Motor Club's two days endurance run, Philadelphia to Wilkes-Barre, Pa., and return.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show, Madison Square Garden.

January 21-31, Los Angeles, Cal.—Automobile Dealers Association's show.

January 27-February 3, Philadelphia, Pa.—Automobile Trade Association's eighth annual show, Second Regiment armory.

February 6-15. Chicago. Ill.—National Association of Automobile Manufacturers' Show, Coliseum and First Regiment Armory.

February 15, Detroit, Mich.—Detroit Automobile Dealers Association's show, Wayne Pavilion.

February 15-20, St. Louis, Mo.—Automobile Manufacturers and Dealers Association's annual show.

March 6-13, Boston, Mass.—Boston Automobile Dealers Association's (Inc.) seventh annual show, Mechanics Building.

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ROMAN ARENA FOR GARDEN SHOW

Complete Details of Decorative Scheme Suggest Colossal Effects—Italian Landscapes for Departments.

On the fanciful analogy that the Madison Square Garden is to New York City what the Circus Maximus was to ancient Rome, the efforts at embellishing that time-honored structure for the purpose of the "Ninth National" show which is to open under the auspices of the Association of Licensed Automobile Manufacturers on January 16th, will be carried out with a view to creating and fostering in every possible way the effect of the arena. An arena the Garden is and always has been. But for the forthcoming show the effect will be heightened by the subordination of all decorative items to this one ideal.

Complete details as to the general scheme of decoration have not before appeared. Prominent among them will be a new emblem which has been selected for the purpose and which is regarded by its originators as peculiarly apt and symbolic of the association's spirit. The new device is to emblazon the stationary and other emanations from the association's offices and will be one of the conspicuous features of the decorations at the Madison Square Garden show. The eagle with outspread wings, as shown in the illustration, suggests the purely American character both of the show and the association. The design places the triumphant eagle on an automobile wheel, between the spokes of which appear the association's initials, "A. L. A. M.," and, as used in the show decorations, the figures "09."

As for the elements of the color scheme, the main floor will reveal a blending of brown and white and green, under a sky tone of azure blue.

The floor will be carpeted with green, where the exhibition spaces are, and bare boards will serve for aisles. In a row down the center and at all the spaces of the sides will be white lamp-posts bearing the names of the exhibitors. Between the central row of posts will be tufted seats. Opposite the Madison avenue entrance will be a low electric fountain of gray stone, sweeping in a curve about the foremost exhibits of the central space, the convex side being toward the entrance.

The walls at the sides of the main floor will be laid out in panels finished with buff burlap. The face of the elevated platform above these brown panels will be festooned with white bunting, and the railings, which slightly overhang the main floor will be white. At the Fourth avenue end of the main floor will be the masterpiece of the whole plan, the big triumphal arch, 87 feet across and 48 feet in height.

The elevated platform will be supported from the main floor by white Doric pillars and also the steps leading to the platform will be white. The walls back of the platform will be finished in panels of brown burlap, and in the beveled soffit, between the walls and the facing of the gallery, will be oval panels containing frescoes depicting the history of vehicular progress. Above the panels will be the face of the gallery draped in white bunting.

The different departments of the show in various parts of the Garden will have a wholly new treatment. A latticed arbor will hood the concert hall with an arch 42 feet in span and 28 feet in height. This arbor will have vines and lanterns hanging from it and the room will be lighted through it. The walls will be finished in the natural burlap, thus preserving the color scheme of the main floor. The barreled vault of the arbor will be supported by latticed columns and the tympanum at the end of it will be in three sections, each draped with vines and bearing the show emblem.

In the cafe, just off the foyer of the Madison avenue entrance, where are to be the electric vehicles, the exhibits will appear beneath an Italian pergola presenting the impression of looking over a stone wall upon an Italian landscape. The weathered gray beams of the pergola will be supported by gray stone columns and from the beams will hang vines and bunches of electrically illuminated grapes. The sky will appear beneath the edges of the pergola, then the landscape between the sky and the wall that runs about the sides.

In the basement, the white and brown color scheme will be maintained, while the rathskellar, which has been a feature for two years, will be made to represent a stone wine-cellar, with a groined ceiling and genuine half-casks set on platforms.



INTERIOR VIEW OF MADISON SQUARE GARDEN, SHOWING DECORATIVE SCHEME FOR THE A. L. A. M. SHOW



THE A. L. A. M. EMBLEM

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NEW RULES FOR BRIARCLIFF RACE

Original Limitations Provoke a Howl of Protest—Donor of Trophy Now Asked to Modify Deed of Gift.

Difficulties multiply in connection with the adoption of rules for the proposed Briarcliff road race next spring. On Wednesday, December 16, the Automobile Manufacturers' Committee, who are the promoters of the contest, adopted a set of rules which provoked such a howl of disapproval from certain of the manufacturers and dealers who claimed to have been slighted, that on Monday, the 21st., another meeting was called at which all of the original rules relating to cylinder bore and weight were thrown out and a new set adopted.

The limitations first decided upon restricted the bore to 5¼ inches maximum for four cylinder motors, or an equivalent for a different number of cylinders, with no limit on the stroke, and the minimum weight was to be 2,600 pounds. This limit permitted of a larger bore than that adopted by the foreign Association of Recognized Automobile Clubs, which is 5⅛ inches. Inasmuch as Briarcliff is intended to be an international race, it was feared that the Automobile Club of America, of which a sanction will be requested, would refuse to grant one, on account of the rules laid down by the Briarcliff promoters.

At the second session it was finally agreed to make the limitations as follows: Maximum bore of 4 cylinder motor, 4⅝ inches; maximum stroke 6 inches; minimum wheel base 118 inches; minimum weight 2,300 pounds. Equivalents of these dimensions will rule in cars with a greater or less number of cylinders. In connection with the adoption of these rules, however, the donor of the trophy, Walter W. Law, will be asked to change the deed of gift, so as to eliminate the clause: "the manufacturers of a car entered in the race shall have sold and delivered, or have built and have had ready for delivery, at least 30 days before the date of the contest in the year 1909 at least ten cars similar in each and every respect to the car offered for entry."

The request for this change will be made in view of the fact that the limitations as now agreed upon, will admit only machines of "stock car" dimensions, which, of course, will leave ample room for the discussion of the old question, "What is a stock car?"

Mardi Gras Meet for New Orleans.

The fact that the American Automobile Association has condemned motor racing on small tracks does not seem to worry the New Orleans Automobile Club in the least and that club has cheerfully announced that it expects to hold a three days race meet during the Mardi Gras carnival, February 20-22, 1909. This New Orleans organization recently affiliated with the A. A. A., and the secretary of the club, Homer George, learned not so long ago that money could be made out of automobile race meets. It was at his incentive that the recent hippodrome meet was held in that city at which Lewis Strang's troupe of performers managed to make the people think they were holding a real race.

A number of short events ranging from 1 to 50 miles, are scheduled for the three days. Beginning Saturday night, February 20, there will be a 24 hours race for stock chassis. The track, which measures one mile in circumference, is to be scraped, banked and oiled with dust preventative. Fred J. Wagner has been selected as official started.

Carris Winner of Worcester Run.

Final results of the Worcester (Mass.) Automobile Club's 210 miles reliability run through the snow, held on December 12, as announced by the technical committee, showed that after the most minute examination, only one of the 14 contestants who started on the run, received a perfect score. After submitting the Franklin car driven by C. S. Carris, to seven different examinations, it was found that the car had no visible defect for which it could be penalized. In the final scrutiny penalties were imposed upon cars for such trivial things as a screw loose in a floor plate, a loose dash bolt, engine pan bolt missing, or loose steering wheel.

Two almost-winners were Murch's Cadillac, and B. A. Robinson's Rambler, both of which received the scant penalizations of 2 points each, for loosened parts that almost required microscopes to locate. Eight of the original fourteen starters checked in at the close of the run with apparently perfect scores.

Philadelphia Offers Wilkes-Barre a Cup.

In connection with the Quaker City Motor Club's endurance run to Wilkes-Barre, Pa., and return on January 1-2, the Philadelphia club has offered a silver cup worth $300 as a prize for the Wilkes-Barre car making the best showing. Upon hearing of this offer a number of Wilkes-Barre motorists at once announced that they would enter the competition. The plan for these entries, as now laid out, is for them to start from Wilkes-Barre on December 31 and run to Philadelphia over the regular scheduled route, this trip to be the first leg of the contest. On the following morning, they will join the Q. C. M. C. members on the run to Wilkes-Barre, thus completing a round trip at the time the Philadelphia contestants finish their first half. This arrangement, of course, is to avoid the necessity of entrants from the smaller city shipping or driving their cars the extra double distance in order to compete.

LATE DECISION DISQUALIFIES LYTLE

His Isotta Car Loses Second Place in Record of Vanderbilt Cup Race—Its Excess Weight the Reason.

Summary announcement was made last week that the Isotta car which Herbert Lytle drove into second place in the Vanderbilt cup race on October 24 last, had been disqualified. The Vanderbilt Cup Commission, after allowing the Italian manufacturer the full benefit of several weeks' publicity, suddenly foreclosed on a technical violation of the rules, which were quite fully known and discussed at the time of the race.

It seems that when Lytle weighed in his car the day before the race, he was obliged to remove the mud-guard supports and a heavy tire rack, in order to get the weight trimmed down to the maximum allowance of 2,644 pounds. When the race started, however, the rack had been replaced, and upon weighing at the close of the contest, the technical committee found the machine above the weight limit. Wm. K. Vanderbilt, Jr., in order to make every possible allowance, gave instructions to have its tanks completely drained, all the mud and grease collected from the road scraped off and even permitted grease in the grease cups to be removed. In spite of all this effort to give the car the advantage of its participation in the race, it was found that the car was still 23½ pounds over the weight permitted by the rules.

Chairman Thompson, after duly considering the matter reported to Referee Vanderbilt that according to the rules, he was bound to disqualify the car and a meeting of the Cup Commission was called to discuss the question, before making it public. It was found impossible to get a quorum and the Chairman then notified the members of the commission regarding the decision.

While this decision positively disqualifies and eliminates the Isotta, it does not officially give second place to Florida in the Locomobile, who was third at the grandstand, after the race was declared off, nor does it affect the status of Luttgen, who finished immediately afterward with Vanderbilt's own car. The official records will now show that only one car actually finished the contest.

Denver Climbfest Indefinitely Postponed.

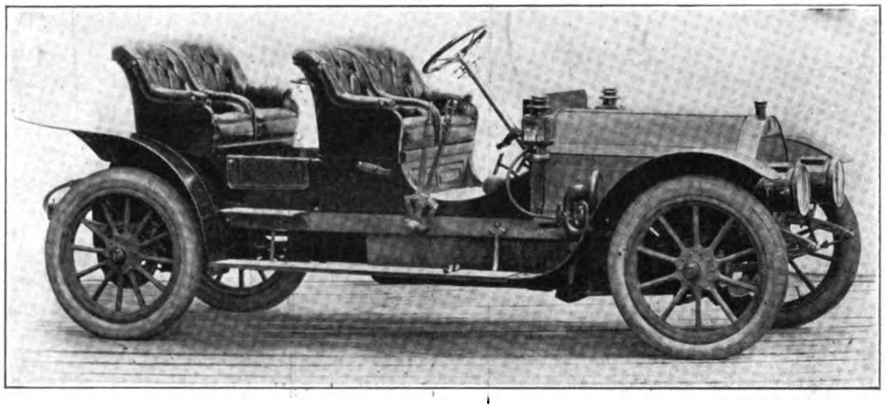
On account of local weather conditions, the Denver (Col.) Motor Club's hill climb, which was scheduled to take place on the Chimney Gulch road to the summit of Lookout Mountain, on December 12, did not come off and the contest has been postponed indefinitely. The canon is filled with snow and the roads are in a practically impassable condition.

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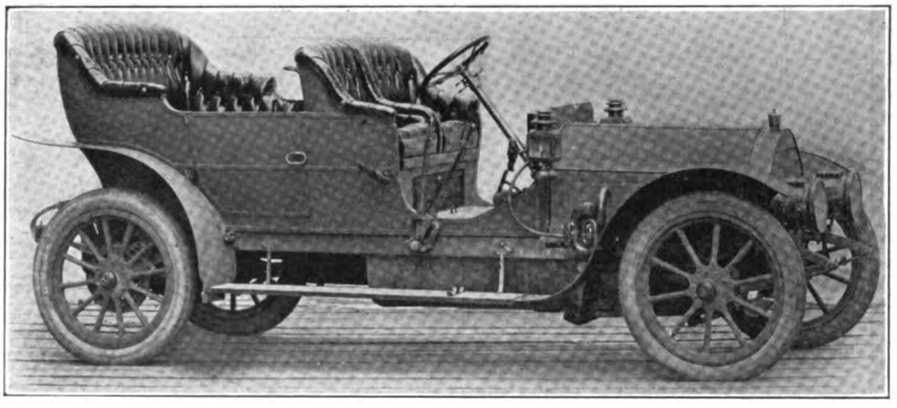
PIERCE MODELS SHOW DEPARTURES

Great Arrow Line for 1909 Includes Five Sizes and Many Styles—The Important Changes Specified.

Great Arrows—that is to say the Pierce family—will be known during the coming year in no less than five different sizes and styles, with the usual number of body variations to increase the virtual number of types by several degrees. Of six-cylinder models there will be three, the 60 model already so well known being continued, while two other and entirely new sextuple models also have been designed, one of 48 and the other of 36 horsepower, as measured by the A. L. A. M. rating. One of the two quadruple models which complete the line is practically a duplication of the 40 horsepower machine already in service with sundry minor improvements added to bring it more nearly up to date, while



PIERCE 6-36 FOUR PASSENGER TOURING CAR



PIERCE 6-36 FIVE PASSENGER TOURING CAR

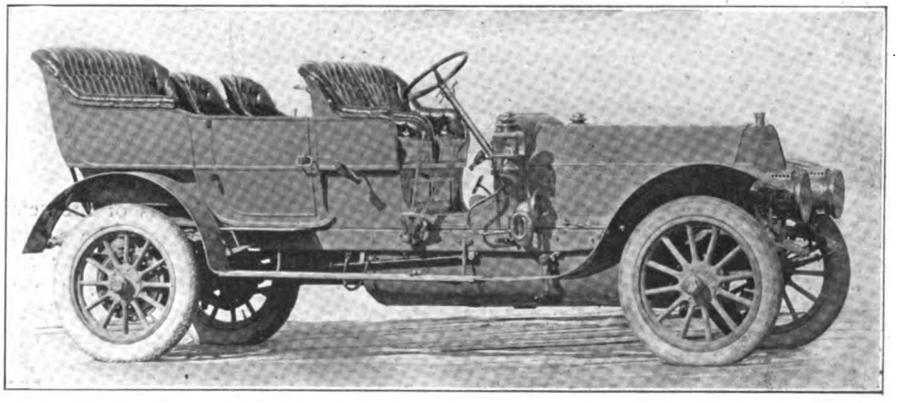
the other is rated at 24 horsepower, is entirely new, and is destined chiefly to fulfil the purposes of the ubiquitous town car.

The completion of these five machines reveals a number of deviations from previous practice in the efforts of the Geo. N. Pierce Co., most noticeable among them being the elimination of the former gear changing lever which so long has been carried in a convenient position directly under the steering wheel. Another important change, applying to the new four and six cylinder models, is the elimination of the former individual arrangement of cylinder casting and its replacement by the twin method. This in addition to other advantages permits the interjection of a liberal crank shaft bearing between each pair of cylinders and affords ample total bearing area for the shaft without sacrificing anything in the way of overall engine dimensions. Other changes also made, comprise the use of rollers for the valve lifter cam contacts, the use of sound deadening washers; the use of bronze-fiber timing gears in place of the solid bronze gears formerly employed, and the redesign of intake and water return pipes.

Second in importance, and accompanying the changed method of actuating the gear-set, is the adoption of a new form of selective change speed gear, which is applicable to all the models. In addition to furnishing the conventional four forward speeds, with direct connection on the high, it is noteworthy in several respects. Its position is such as to permit the gear actuating rocker shaft to enter the box directly at one side, thus doing away with all secondary shafts and interconnecting linkages, and also considerably reducing the size of the gearset. In addition to this it is very compactly designed, so that despite its accomplishment of the manifold function of affording five changes of speed including the reverse, it is smaller than many three-speed sets and goes into the frame very handily just back of the clutch and well forward under the flooring in front of the driver's seat.

It has but two sliding sets, the first affording the direct connection through the main driving shaft by means of a jaw clutch, and the third, through the lay shaft which is in constant rotation. The second set gives the two lower forward speeds in the usual way, and the reverse by inter-meshing with an idler which is in constant motion. A somewhat unusual feature of the arrangement is that the neutral point lies between the first and second forward speeds, so that for manipulating in narrow quarters — which is the condition under which the reverse is most employed, the low forward and backward speeds are engaged by direct movement of the lever and without the necessity of passing through any idle or neutral point.

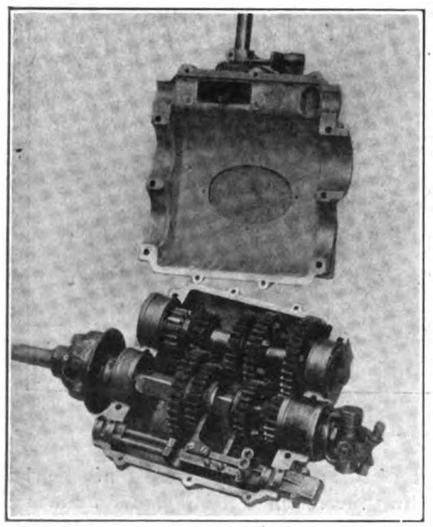
In this same connection a very neat form of clutch interlocker is provided in the shape of a circular arc-shaped plate which is positively attached to the gear shifting rocker and is perforated at a number of



PIERCE 6-60

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points to permit the engagement of a pin connected with the clutch mechanism. When the clutch is engaged, the pin enters one of these holes, thus locking the gear-



PIERCE TRANSMISSION

set against inadvertent handling or jarring out of mesh, while so soon as the clutch is unseated, the gear mechanism is free to move in any way desired under the influence of the shifting lever.

Power is transmitted to the gearset by a particularly neat and light form of cone clutch, leather faced and equipped with cork inserts set in a single row. The engaging spring is not only self contained and fully enclosed, but designed to take up an unusually small amount of longitudinal space, and is directly connected to the transmission shaft through a double universal joint. This compact construction, of course, permits the extreme forward position of the gear box, and also allows a rather considerable length of propeller shaft with consequent reduced augularity. Two double joints are provided in the propeller shaft, complete floating drive for the rear axle thus being secured.

The axle construction varies from the familiar "full floating" type in that the wheels instead of being mounted on the axle tubes are carried on the ends of the axle stubs themselves, the arrangement thus being of the semi-floating type. The parts, like the entire transmission group, are mounted on annular ball bearings, with adequate provision for lubrication. The outer ends of the stub axles are supported by bearings set close inside the wheels, while the inner ends are keyed into the differential gearing, the bearing suports being on the bronze hubs of the differential housing, rather than on the shafts themselves. The differentials are of the spur type, and the thrust of the driving bevels is absorbed by an independent ball bearing.

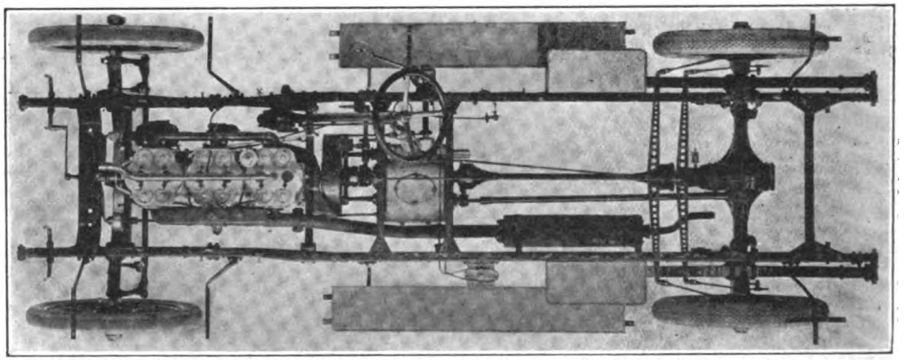
The triangular torsion rod, instead of being rigidly attached to the rear axle housing is hinged to it at two points, a vertical pin allowing a certain elasticity of movement for the axle. In this way the driving mechanism is given the complete floating arrangement without sacrificing anything to strength or rigidity in the lines of driving force.

Of the general details of the power plant, several of the special features are retained. The oiling system, for example is retained in its integrity, the oil being pumped from a well in the base through ducts in the crank shaft to the various bearings, the overflow being sprayed by the motion of the cranks, and serving to lubricate the cylinder walls. The carburetter is the same as has been used heretofore except for the construction of the auxiliary air inlet, which is somewhat out of the ordinary. It consists of a group of three spring-controlled reeds, which are equally spaced about the cylindrical walls of the air chamber. The reeds are backed by springs of varying tension and are opened progressively according to the varying demands of the engine as indicated by the suction, to admit just the required amount of diluent to the mixing chamber. Two sets of ignition arrangement are fitted, the principle standby being the Bosch magneto, which fires a set of plugs mounted horizontally in the sides of the valve chambers. The auxiliary system comprises dry batteries, coil and roller commutator, driven from a vertical shaft actuated by the inlet cam shaft. The plugs for this secondary system are mounted in the cylinder heads, adjacent to the valves. The latter, by the way, are still of the interchangeable type, and have been increased ¼ inch in diameter over the sizes in use on the 1909 models.

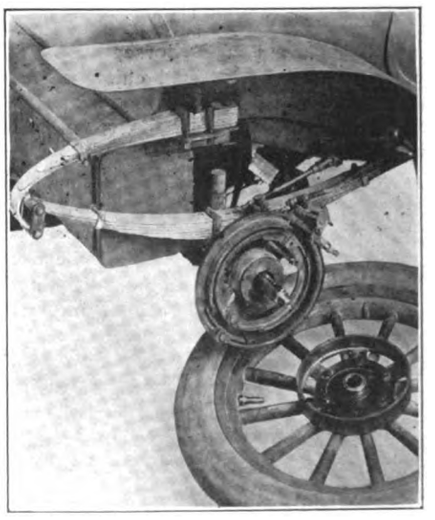
The spring suspension is of the semi-elliptical order on all except the new 6-36 and the smaller four-cylinder town car models. For these, the rear ends of the chassis are hung on three-quarter elliptics. An important detail of the spring construction is that instead of drilling the leaves to admit binding bolts, two bosses are stamped out of the successive laminations of such size that they fit and interlock tightly together, the saddles clamping them firmly together. For both front and rear members a swivelled bearing is secured on the axles, with a special form of saddle provided with a liberal oil way which is fed from grease cups which also are provided in every case.

The general specifications are: For the 6-36 model, 119 inches wheel base; tires, 36 by 3½ by 4 inches as a runabout, and 34 by 4 by 4½ inches when used as a touring car for two, three, four or five passengers; for the 6-48 model, 130 inches wheel base; tires, 36 by 4 by 4½ inches when used as a touring car for two, three or four passengers, and 4 by 5 inches when the seven passenger accommodation is employed; for the 6-60, 135 inches wheel base; tires, 36 by 4½ by 5½ inches; for the 4-40, 134 inches wheel base; tires 36 by 4 by 4½ or 5 inches, according to the type of body employed; for the small four-cylinder car, 111½ inches wheel base; tires 34 by 3½ by 4 inches, or 32 by 4 by 4½ inches as an option.

The special method of body construction which has been in successful use heretofore on Pierce cars is continued. The bodies are built of cast aluminum, the several sections being separately draw-filed and fastened together after the preliminary finish on a wood mounting, with lapped, riveted joints. After the joints are complete they are finished over by draw-filing, and the final finish built up directly on the metal.



PIERCE 6-48 CHASSIS



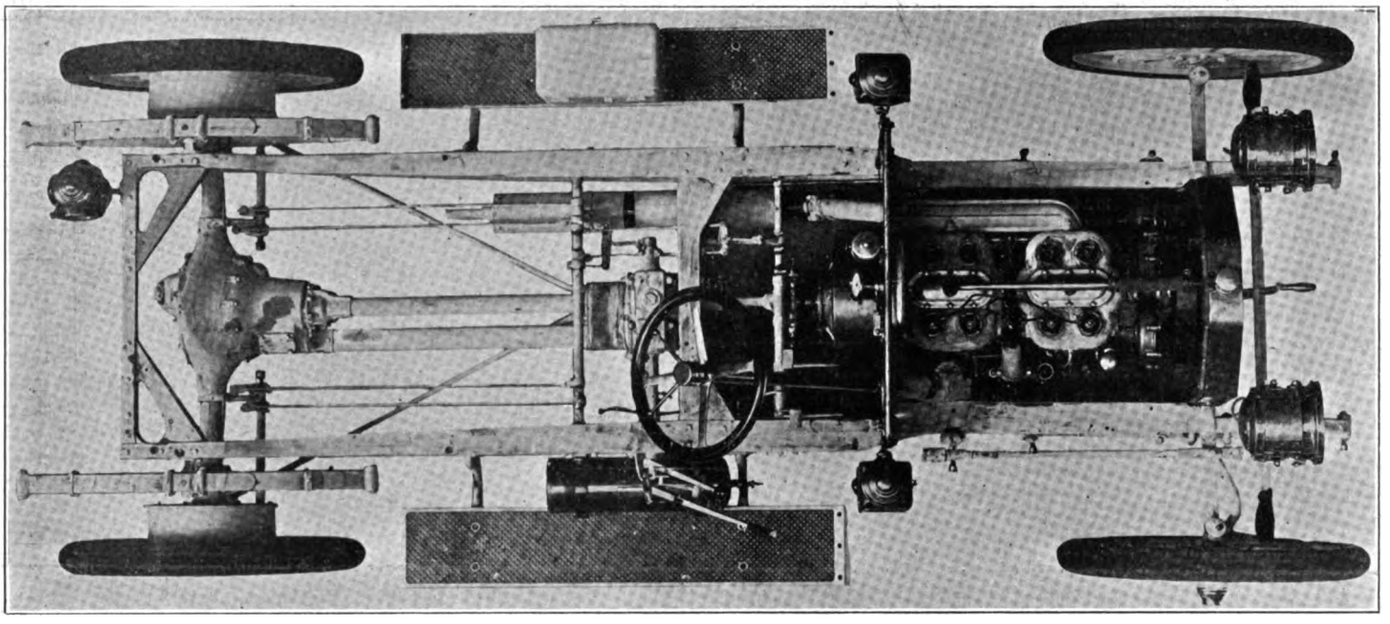
PIERCE BRAKE AND SPRING

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THE NEW MARMON "THIRTY-TWO"

Features of Its Original Rear Axle Construction—Body Mounting Includes Three Distinct Types.

Complete details of the new Marmon "Thirty-two," the smaller of the two most recent additions to the product of the Nordyke & Marmon Co., Indianapolis, Ind., add not a little to the interest which its preliminary details, published some time since, served to create. The machine is a low, rakish, "Continental" appearing model, of pleasing lines and roomy and comfortable setup, besides which it is dignified by a number of mechanical features which are well worthy of special attention.



CHASSIS PLAN OF MARMON "32"

Its motor is the newest Marmon model of 4½ inches "square" dimensions and a nominal output of 32-40 horsepower according to speed and load. It is of original design throughout and while comparatively light in weight has been worked out with special regard to the two objects of great durability coupled with extreme accessibility. Particularly noteworthy in this connection are the use of very long pistons and connecting rods—both features conducive to long life and efficient performance. The motor is mounted by means of a three-point support within the main frame, the forward end being carried on a trunion which rests on the cross channel member, and the rear end by a steel tube the ends of which are cradled on the sides of the main frame. The crank case, which is of the barrel type, is a staunch, single-piece aluminum casting having an independent oil reservoir bolted to the bottom by means of through bolts instead of studs, which are secured by lock nuts, with lock washers and cotter pins. The crank shaft is removable through the rear end of the case, the forward shaft bearing being a solid bushing, while the intermediate and rear end bearings are of the separable type. The valves, which are oppositely disposed, have an opening in the clear of 2 inches. The valve tappets are provided with screw and lock nut adjustment, and are equipped with steel contact rollers which ride upon the cams. The tappet guides have a large bearing surface, are enclosed by practical dust caps, and are retained by means of crows-feet clamps.

The magneto and water pump are mounted on the exhaust side, with the shaft extending through the pump casing. Double ignition is employed using the Bosch high tension magneto, single Bosch coil mounted on the dash, battery arranged to work through the coil and the distributor which forms an integral part of the magneto, and one set of spark plugs located over the intake valves. The effect secured is thus practically the same as that of the complete dual ignition, but the amount of apparatus involved is much reduced and simplified. The intake manifolds are cast integral with the cylinder units and water jacketed, thus reducing the liability of the gasolene condensing from the gas while running at low speeds, in addition to bringing about a very desirable simplification of the piping.

Motor lubrication is by means of the Marmon system which has been in successful use for several years and which involves the use of a gear driven pump which draws the oil through a fine screen and serves it to the three main crank shaft bearings through radial holes leading from the hollow bore of the shaft and registering with grooves in the bearings once in every revolution, and through which it is carried to the connecting rod "big ends." Uniform pressure is maintained throughout the system by means of an adjustable relief valve conveniently located, together with a gauge mounted on the dash board which indicates the pressure on the oil passing through the system. The pump is placed in a case located on the outside of the engine base and is driven from the intake cam shaft by spiral gears. Provision is made for removing the screen, and the well may be cleaned out by removing a plate underneath in the bottom of the mud pan.

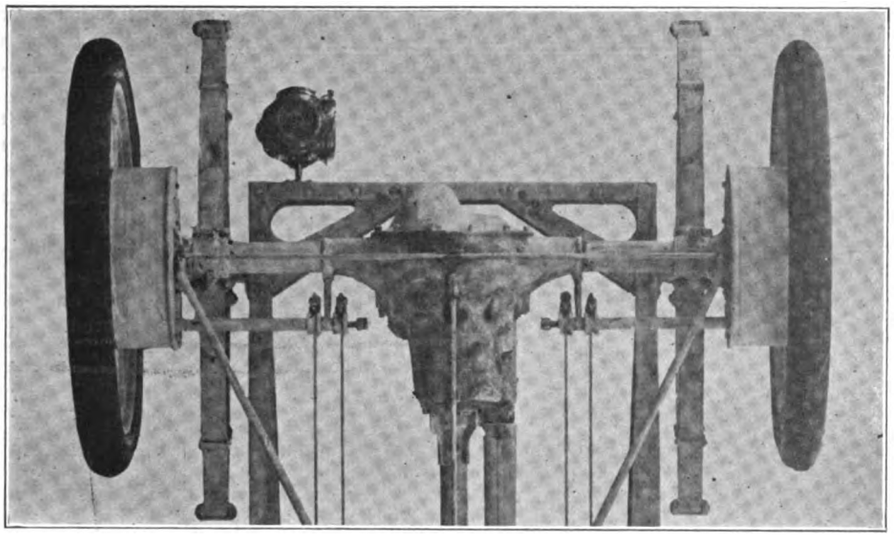
Transmission is through a plain cone clutch, leather faced and equipped with relieving springs. The clutch is engaged by a single spring and is mounted with ball thrust bearings to relieve the pressure of disengagement. The change gear is mounted on the rear axle—a new feature with this model, the rear axle construction being of particular interest in this connection. The axle proper is of identically the same construction as is employed in the larger Marmon "Fifty" car, except for the added details of the speed changing mechanism which it carries.

The axle housing is of pressed steel, the differential part being in the form of a ring with the tubular form continued through the wheel hubs giving a complete floating axle construction. Sleeves forming the support for the wheels, brakes and spring pads are secured to the ends of the axle tubes and these add stiffness and strength to the housing. The rear opening of the differential housing is closed with a cast aluminum cover which, when removed, permits the differential unit being taken out and also the transmission gear set without the necessity of jacking up the axle or disturbing it in any way, except the

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partial withdrawal of the floating axle drive shafts.

To the forward side of the axle housing is bolted the aluminum bell shaped gear box of the three speed selective transmission with the main shaft on top and the countershaft directly beneath.

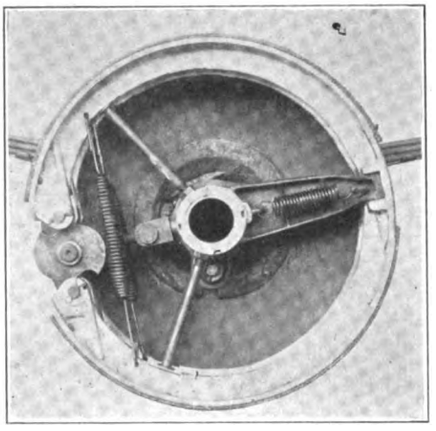


MARMON REAR AXLE CONSTRUCTION

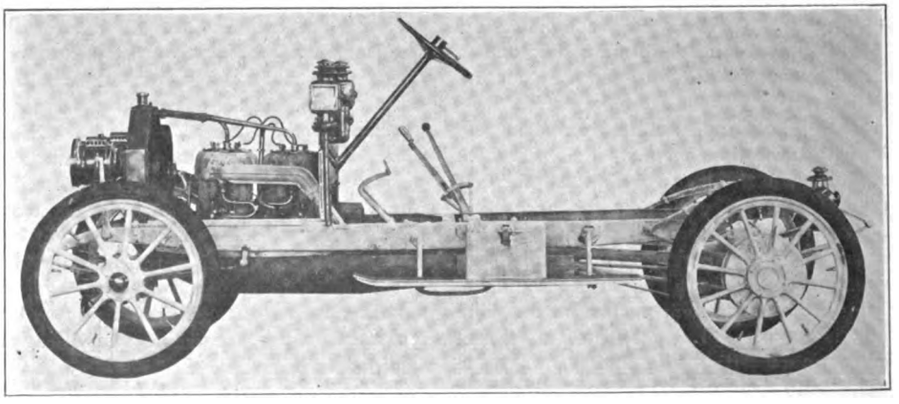
The radius rod and torsion group is here condensed into a single radius and torsion tube which encloses the propeller shaft and is yoked to the frame at its forward end by means of a huge ball and socket joint. The universal joint of the propeller shaft is mounted within this member, which, in turn, is suitably protected and enclosed to keep out offending dust and dirt. The containing aluminum housing also supports the gear shift rocker shaft and the emergency brake rocker shaft and is packed with lubricant—further, it is readily accessible through the floor of the car. The two gear shifting rods are enclosed in an oval tube which guards them from mud and water. Two pull and push braces from the ends of the axle to the forward end of the torsion tube, hold the axle firmly in position, while a truss rod fitted with an adjustable turn buckle passes underneath the gear box from the center of the axle to the forward end of the shaft tube, adding strength and rigidity to the structure.

Another peculiarity of the construction is the use of but a single row of balls in the mounting of the wheels, the alignment of those important members being secured by the inboard support of the stub axle ends in the differential casing. The result is at once a simplification of the mounting and the securing of a very short length of hub and an unusually neat wheel.

The brakes, which are of the internal expanding type, are placed side by side on the rear wheels, on a single drum 14 inches in diameter—the double sets affording an aggregate area of no less than 352 square inches. The shoes are faced with Thermoid lining and are mounted on a carrier the squared end of which fits into corresponding slots in the shoes, thereby giving a true floating ring construction. They are equalized and are applied by cam action.



ARMON BRAKES



SIDE VIEW OF MARMON "32" CHASSIS

The wheel base is 112 inches, and the wheels are shod with 34 by 4 inch tires. The spring suspension is by full elliptic members 40 inches long in the rear and semi-elliptic members, 35 inches long in front. The front springs are hung 15 inches from the front and 20 inches from the rear, thus allowing the radiator to be mounted even with the axle.

The body mounting is in three distinct types—the five passenger touring car; the four passenger 'suburban," which gives the general effect of the often yclept "baby tonneau," though with additional room; and the two passenger roadster, which has a very low seat placed well to the rear, special fenders, and a rear mounted fuel tank.

Relation of Braking Area to Weight.

Braking equipments having been reduced to terms of everyday security, it has now become a question of braking area in proportion to total car weight on wheels, instead of, as formerly, the mere size of the drums irrespective of the weight of the car. In this connection the H. H. Franklin Mfg. Co. has recently produced comparisons with the equipment of their seven-passenger touring car and a standard machine of another make. The weights of the two vehicles are, respectively, 2,650 and 3,400 pounds, and the Franklin car has an aggregate braking area amounting to 340.8 square inches. The area of working surface employed on the other machine is 339.2 square inches. But as is pointed out, in the latter case the brakes are all mounted on the rear wheels, whereas on the Franklin, transmission brake is so placed that it has three and one-half times the leverage of a rear wheel brake. This means an equivalent of 603.8 square inches rear braking area, which, as the other car has a disadvantage of 28 per cent. in weight, reduces its effective braking equipment by an amount sufficient to give the Franklin excess of 78 per cent.

New Palmer & Singer Model Coming.

As a result of the showing made by their car at the recent Savannah races, the Palmer & Singer Mfg. Co. has decided to produce a new Savannah model, only a limited number of which will be built, but which will follow closely the lines of the southern competitor for the Grand Prize. The car will be rated at 90 horsepower and will be sold under a 90-mile-an-hour guarantee.

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BIG PLANT FOR SMALL APPLIANCES

Wonders of Laboratory Where Splitdorf Ignition Apparatus is Produced—The Firm's 50th Anniversary.

"It is a wonderful thing in its way. A few years ago to have dreamed of a big six story brick factory just making apparatus to deliver little blue sparks in the cylinders of gasolene motors would have seemed absurd," said an observing member of the trade, "but you can get a sidelight on the present size of the motor industry by taking a look at just that kind of a factory now, where magnetos, coils, spark plugs, switches, timers and such things are being manufactured and shipped in a volume that only a little time back would have supplied the world five times over."

He had in mind the Splitdorf Laboratory, in the Bronx, New York City. For anyone entertaining a curiosity as to what is inside of a high tension coil or how a magneto is made, it is a good place to visit. Even the man interested in the study of manufacturing problems in general will find food for thought, because the making of ignition apparatus on the large scale which the Splitdorf establishment has undertaken has evolved some rather pretty work in production methods and equipment.

To get to the new Splitdorf factory it is necessary to take the "West Farms" subway train, which after reaching the upper limits of Manhattan dives underneath the Harlem River, to come up in the Bronx on the other side. With a rush and a roar, together with a very uncomfortable compression of the atmosphere, the cars make their submarine dash, and, after a long uphill pull, reach the Mott avenue station, where the visitor alights. So deep has the plunge of the train been, however, that from the station platform it is necessary to take an elevator to the street level, which is four stories above. A short walk brings one to the factory, on Walton avenue near 137th street.

Upon entering the door, a strong smell of ozone and melting wax constitutes the first "impression" of the place. The smell goes with the business, just as there are peculiar odors associated with tanning, surgery, blacksmithing, brewing or the manufacture of perfumes. No difficulty is encountered in figuring out the source of the smell of insulating wax, but the ozone is harder to trace. The trip through the factory, however, discloses the mystery. The ozone is the product of the thousands of sharp electrical sparks which occur in the building during the course of the day in the testing of plugs, coils and magnetos.

Before passing to the department of purely electrical work, it is worth while to take a look at the equipment for the making the mechanical parts of the different Splitdorf devices. As in most establishments manufacturing comparatively small articles, there are numerous rows of drill presses, lathes, milling machines, grinders, and the like, but many of these are built in special forms to suit peculiar requirements. To make the ball races for the bearings of the magneto shafts, for instance, one of the mechanical geniuses of the factory has devised a set of special grinders which have the revolving spindles mounted in big double taper plain bearings, permitting an astonishing speed without either looseness or overheating. The bearings of the grinders look big enough to carry the shaft of a harbor tug, while the grinding tool is only about the size of a shoe button, but the speed at which the spindle revolves and the accuracy with which the ball races for the magnetos must be ground, require special precautions. In result, the grinders turn out magneto bearings which allow perfectly free revolution but not a trace of discoverable end-play.

That sharp-edged, "grained metal" finish which is a feature of all the exterior brass or bronze parts of Splitdorf devices, is secured by means of a rotary emery belt. The latter has an outer surface of emery cloth, and runs like a band saw over two rollers. The parts to be finished are pressed by hand against the belt as it flows from one roller to the other, and a moment's contact "grains" and polishes the metal. The pieces are then heated in a Bunson flame and subsequently lacquered so that they will preserve their bright appearance.

Nearly all of the hard rubber parts used are received cast from dies, so that they run uniform and perfect. Before the dies were made, each part passed through several earlier forms, each of which was improved after service had shown where better design could be effected. The dies are very expensive, and not until finality of design for a particular piece has been attained, can it be given over to the die method. Similarly in every detail of the mechanical work on the product, advantage has been taken of whatever methods will produce the required high standard of results in the most efficient way.

To understand a magneto it is necessary for the visitor to know that an electrical current can be "generated" or caused to flow in a loop of wire when a portion of the loop is moved between the two poles or ends of a U-shaped magnet. A magneto is essentially a set of magnets with a group of revolvable loops of wire between the poles. When the shaft carrying the windings of wire is revolved, electrical currents are set up in the wire windings. These currents can be tapped or conducted from the magneto to other parts on a car, provided a path is given them by which they may return to the magneto again, whether it be by a wire or simply through the metal frame of the automobile itself.

On the floor chiefly devoted to the manufacture of the magnetos, there may be seen, in addition to the testing and assembling benches, several long tables bearing rows of U-shaped steel pieces. These are converted into magnets by the simple process of surrounding them with coils of wire through which a strong electric current is flowing. The coils are fixed permanently to the wall, and the steel pieces are magnetized one by one, through being inserted in the holes in the coils, provided for their reception. The man in charge puts a piece in, turns on the current, waits a few moments, then turns the current off and on a few times, gives a final "dose" of some duration, and the trick is done. The magnetized pieces are fitted with short steel bars to connect the two ends and close the "magnetic circuit" so that they will not lose strength before being mounted in the magnetos of which they will form a part, and are then arranged in rows on a receiving table. Before being used they are tested, each one being required to lift an iron weight of about 20 pounds or to suffer rejectment as unsuitable.

The testing stand for the complete magnetos, on the same floor, is fitted with all the necessary shafting and gear wheels to drive the machines at various speeds. Connected up with a coil, each magneto provides current for a group of four or six plugs, according to the service for which it will be required. The Splitdorf "system" of magneto ignition is different from most in that only one coil unit is used, instead of a separate unit for each cylinder of the motor, and that the magneto not only supplies the dashboard coil with the necessary primary or low tension current, but accomplishes the distribution of the high tension current from the coil to the various cylinders in their turn.

Keeping in mind that the primary or low tension current only goes from the magneto to the coil and return, and that the high tension or secondary current in effect is conducted only from the coil through a distributer to the spark plugs and back through the metal work of the car to the coil, the system can easily be understood. The novelty of the Splitdorf arrangement consists in incorporating the distributer for the high tension current in the available space in the upper part of the magneto instead of having it outside as a separate part of the system.

In the electrical sense there is no difference whether the magneto and the high tension current distributer are together or a mile apart, but as a mechanical combination for economizing space and simplifying the method of drive the arrangement of the two together is a happy idea. The coil gets its series of primary current impulses from the magneto and at each impluse delivers a corresponding discharge of high tension current to the distributer in the upper part of the magneto. The latter is geared to the main shaft of the magneto in the proper ratio to send the high tension current along through each of the four or

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six heavily insulated leads in turn, so that it is delivered to the spark plug of each of the engine cylinders at the proper time.

For one coil unit to do all the work ordinarily accomplished by four or six obviously requires that it be made extremely durable and of a capacity to avoid overheating. Such is the construction, and a very generous sized trembler is used, much more substantial than on an ordinary coil. The coil is wired to take battery current as well as magneto. To start the car from the seat a mother-of-pearl push button is located in the side of the coil box. By pressing the button the primary circuit from the battery is closed, independent of the position of the timer. The resulting flow of high tension impulses is sent from the coil to the distributor and passed along to the correct cylinder, since the distributing arm is geared always to be in contact with the lead to the cylinder which is in the position to be fired.

Fifty years of experience in making coils has taught the Splitdorf people some things which lead them to make the inside of their coils quite different from many others. The usual ignition coil has a core of soft iron wires extending like a straight piece, which when magnetized by the flow of primary current around it has its poles at opposite ends of the coil. In watching the construction of the Splitdorf coils, however, it will be seen that the core also contains various lengths of very fine strands of wire, much longer than the coil itself is to be.

When the coil is ready to assemble these are not cut off flush on the ends as one would expect, but are looped around the outside of the wire windings toward each other until the longest ends almost touch to form a complete "magnetic circuit." The theory in this connection is rather intricate and has to do with taking care of various magnetic eddies and stray currents that would otherwise unfavorably influence the action of the coil. The winding of the wire around the central core differs from the more common method, too. The winding is in two sections, one for each the upper and lower halves, the sections being wound oppositely but with their terminal connections so disposed as to unite in the one effect.

Big sheets of shiney black hard rubber are used up rapidly in being cut into strips of suitable size for insulation inside the coils. To fold and bend them to the proper forms, the strips are heated for a moment over a sootless flame, when they become soft and pliable for the brief time necessary to shape them. Whatever care may be manifest as to the exterior perfection of the coils is more than matched by the painstaking work that is done on the interior assembly, where the materials used are of the best. The wiring leads inside are covered with small white rubber tubing and all the insulation made with a thoroughness suggesting that no work will be left for the wax insulating filling except to occupy the spare space in the containing box and make the contents one mass.

But it is the top floor that is the liveliest and most interesting for the visitor, not necessarily because of the fact that here a good proportion of the operatives are bright looking girls, but because of the diversity of operations which are going on. The big wax melting pots are on this floor, looking like dwarf ore smelters. The machine which winds tin foil and insulating paper together for the condensers, and the machine which crushes the rolls thus made into suitable shape for the coil boxes, are located here. The repair department and the wreckage department occupy another corner, looking very industrious by reason of the fact that in tearing down old coils it is necessary to make the wax chips fly when chopping the insulation away from the windings.

The tinkle of a telephone bell is heard intermittently in the hum of work. It does not signify real telephone calls, however. An old style telephone generator of the kind where you whirl the crank to ring the signal, is used in the repair department for the purpose of testing coil windings. The girl in charge of the work connects the two terminals of the suspected piece of wire winding to the terminals of the telephone magneto, and revolves the crank. If the bell tinkles the winding is good, but if the bell cannot be made to sound, the winding is thrown in the scrap heap.

Mica seems like hard stuff to handle, and yet in the spark plug department on this top floor the visitor can see something of a wonder performed with it is the result of a clever method of manipulation. The central metal core of the new combination mica and porcelain plug, which the department is devoting its chief attention to at present, is wound with white India mica. The core is tapered and the mica is rolled around it in short, curved, overlapping strips by means of a small hand-operated lathe device. Tightly as it can be wound by this method, however, it does not meet the Splitdorf requirements. The core with its wrapping is placed in the bushing of the plug, with the small end of the taper toward what will be the top of the plug. While the bushing is securely held, the large end of the core is hit a sharp and powerful blow, driving the tapered core with great force into the narrowing mica coating which surrounds it. The result is that the mica layers take a spiral relation to the core and grip it to the last possible degree.

The formation of the mica is then such that with a sharp knife all the loose edges may be scraped away until the blade comes to a hard, seemingly solid, glass-like surface that cannot be scraped down further. A close examination under a microscope reveals that the successive layers from a surface which appears like overlapping fish scales, but the similarity does not extend to any such easy disarrangement or removal as characterize the latter. This method of using the mica circumvents practically every objection which has in the past been offered against the material as a spark plug insulator, it is said. Mica washers are used on the plug only to surround the upper part of the central mica winding on the core, while over the washers there is a further protecting hood of green porcelain.

From the sixth floor down to the second, the building is filled with busy workers in the manufacturing end, presenting, as previously suggested, a striking corrallary of the magnitude of the motor industry requiring this among many other factories to supply its ignition needs. The ground floor contains the offices, the shipping room, a stock room and a place for automobiles requiring ignition installation or repairs at the factory. The basement has the woodworking department and also has the boiler room and power plant for generating electric current for the building. The room contains a very elaborate and complete switchboard, where mischievous hands sometimes turn out the lights to mystify the visitor.

New as the factory and equipment are, the Splitdorf Laboratory is one of the real veterans of the trade. It was founded at Philadelphia by Henry Splitdorf, in the year 1858, for the purpose of carrying on experiments connected with projected improvements in telegraph instruments. The great problem in those days was to cut down the length of time required to send a message between New York and Chicago. This, Henry Splitdorf set about to accomplish, and he succeeded in doing so by the invention of the repeating relay which reduced the time required for the transmission of a message from New York to Chicago to about five minutes, whereas the former time was between five and seven hours.

This work being accomplished and the Western Union Telegraph Co. requiring a great number of instruments, Henry Splitdorf began the manufacture of them and so continued for several years. Finally, the Roentgen rays having been discovered, he went into the manufacture of large sized Rhumkorff coils for the use of the medical profession and experimenters.

Out of this small beginning grew the present enormous busines, and during the year 1885 his son Charles took up the management of the business which Henry Splitdorf had relinquished on account of advancing year, and the firm drifted gradually into the manufacture of the Splitdorf coil for ignition purposes. Following this the younger son, John, was taken into the business in the year 1889, and the Laboratory at 17-25 Vandewater street, New York City, was then established. It continued at that location until 1907, when having greatly outgrown its quarters the entire Laboratory was removed to the new factory, 261-265 Walton, the Bronx, giving about 60,000 square feet of space.

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FIRST OF THE NEW CROP OF LAWS

Massachusetts Getting Grist Ready for the Legislative Hopper—State Highway Commission Drafts a Bill.

Locking up the automobile that happens to upset the unwary wayfarer is the remedy some citizens of Massachusetts appear to be considering seriously as a means of checking the reckless or careless motorist. It was suggested at a meeting of the Twentieth Century Club in Boston last Saturday afternoon, while Robert Homans, attorney for the Safe Roads Association, was discussing the topic of adequate restriction for automobiles. Inflicting fines, he said, does not reach the owners of the machine in any adequate way.

"Why not put his machine in jail?" interrupted some one in the rear of the hall.

"That's exactly what I propose," was the reply. "Take the car and all the cars away from the reckless owner and he'll keep within the law after he's paid his penalty."

That the automobile laws of the State are not uniformly enforced was a view that was freely expressed by Mr. Homans and others, one of the reasons specified being that as roads now are built in Massachusetts they are constructed and kept in repair by local bodies and the laws governing their use are enforced by local police. The result is that there is no general control; but laws and ordinances and general conditions differ widely in various parts of the State.

Meanwhile, with the annual session of the "Great and General Court" near at hand there are the usual notes of preparation for amending the automobile law. The Massachusetts State highway commission has drafted and presented to Governor Guild for approval or revision, a new bill regulating the use of automobiles. This is one result of the conference of the highway commissioners of the New England States, which itself was a result of the conference of governors. The Massachusetts board was authorized to prepare a bill incorporating a number of approved suggestions, and the bill is to be urged on all the New England legislatures.

The commission has practically codified the laws on the subject in the New England States, and has adopted some ideas from States outside of this territory.

Some of the provisions are as follows:

A limit of 10 days for non-residents to operate automobiles in the State without registration, but with a new definition of "non-resident" which excludes from the class people who have a regular place of business or abode in the State for three months or more in the year; such persons have to pay registration fees, but get a half rate for the three months, July, August and September.

Numbers must be illuminated at night, but the Massachusetts requirement of numbered lamps has been eliminated.

An "adequate brake" specification is copied from the laws of New Jersey. A minimum limit of 16 years is fixed for private operators, and 18 for chauffeurs; all persons who receive compensation for work on automobiles are chauffeurs, must be licensed, and no person may employ an unlicensed chauffeur. "Dealers" include persons who let motor cars for hire, thus permitting them to take out "dealers' licenses."

New garage rules are incorporated in the bill, one being a requirement that motor cars shall be checked in and checked out of garages; this is so that an owner may know how often his car has been taken out and stop the unauthorized use of cars.

The proposed law imposes a speed limit of 25 miles, and allows judges to place on file complaints of speed above that limit if in his opinion it was unintentional or "that no person or property could have been injured thereby." A limit of eight miles an hour around curves and corners in also provided.

Registration fees are to be based on horse power; the uniform fee to be 50 cents per horsepower, graded in multiples of 10.

Morrell Sues the State Engineer.

That Briarcliff road race which was held last April, gave the promoters no end of trouble at the time and the trouble is not yet ended. It has just been made public that Robert Lee Morrell has instituted suit against State Engineer Frederick Skene, who at the eleventh hour, came very near preventing the race over the Westchester county course. The day before the contest was scheduled to take place, Skene demanded a cash deposit of $4,600 to cover any possible damage to the State roads used in the course. The Automobile Manufacturers' committee, in charge of the contest, offered to put up a bond for the amount, but Skene would accept nothing but cash. Morrell raised that amount and it was handed over to the State Engineer, under protest.

Subsequently, a portion of this amount was returned to the committee represented by Morrell, but it was only a very small portion—$582.14. The amusing feature of the suit is that Job Hedges, who represents Morrell and the committee, does not claim that the roads were damaged to any extent less than Skene declared, but contends that the State Engineer had no right to lay down his own rules to the Manufacturers' committee as to how the race should be run, and that he had no legal right to exact cash and collect it from the committee.

Engineer Skene declared last Saturday, that he was absolutely sure of his right to retain $4,000 of the amount deposited with him and that the suit was not causing him any worry whatever. The outcome of the case when it comes to trial will prove interesting to many.

ADMITS THAT THE LAW IS FAULTY

Commissioner Smith of New Jersey Replies to Protests—He Will Co-operate in Efforts for Fair Legislation.

Admitting that plans exist in New Jersey's law regulating automobiles, J. B. R. Smith, Commissioner of Motor Vehicles, replying to the protest of the Newark Board of Trade, and the alleged attitude of automobile interests outside of the State, against the law as it now stands, says in part:

"Perhaps no problem has so embarrassed all friends of good automobile laws as that attending the charge of a lack of comity between New Jersey and her sister States in the interchange of licenses, and we have all earnestly striven to find the correct solution.

"The department has given much study to this subject, and has had the hearty and loyal co-operation of the active representatives of the organized motorists.

"Some time ago I suggested the desirability of having a conference called at a convenient time, at which representatives of motorists from all the States interested in the subject, including those who make laws, as well as those who enforce laws, and all those whose interests are in any way affected by the use of motor vehicles on the highway, including farmers, tradesmen, manufacturers and tourists, might meet and in a proper spirit discuss the most efficient methods of automobile regulation. I am hopeful, indeed, expectant, that means may yet be provided whereby such a conference may be held.

"Of the ultimate outcome I have always been optimistic, and if I can be of any service in not only raising standards of legislation, but of actually securing a more efficient protection to the inalienable rights of all those who use highways, whether they be motorists, horsemen or pedestrians, I shall be more than repaid for the effort. This problem is capable of solution. New Jersey will solve it, and we are all working for that end."

One Way of Avoiding Fines.

One way to avoid speed fines is to follow the example of a chauffeur named Alexander Lee, a native of Norway, who, until recently worked in Detroit. Lee was employed by the Ford Motor Co. and made such brilliant progress in the speed line, that finally he was arrested for maintaining a clip of 30 miles an hour on the boulevard. Lee said he knew of a neat way to avoid paying a fine or serving a sentence for the offense and it was found to work very well, for when the case was called last week, it was learned that Lee, who had attained such high proficiency in the driving art, had returned to dear old Norway.

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NOVA SCOTIA PLANS BETTER ROADS

Probable Effect Upon Automobiling in the Province—Poor Highways a Reason for Present Onerous Restrictions.

Motor cars have not been in much favor in Nova Scotia in the past, says Consul General David F. Wilber, of Halifax, in a report to the State Department at Washington. He gives as a reason the poor condition of the roads throughout the province, but there has been a decided effort to over come this defect, which is as much of a drawback to the driving of horses as it can be to the operators of automobiles. At the last session of the provincial legislature, he says, "a bill passed authorizing the establishment of a department of roads and appropriated for the improvement of roads $175,000, and also $25,000 for small bridges.

"There are 97 automobiles registered at the office of the provincial secretary," he continues, "divided as to origin as follows: United States States, 61; Canada, 32; England, 3; Scotland, 1. According to the population and wealth of Nova Scotia this is a poor showing, and is largely due to defective methods used in introducing this line of goods. The Canadian makes are built on the same lines as those made in the United States, most of them being manufactured by American firms having factories in Canada. The predominating style is the runabout and the lighter touring cars, from 8 to 30 horsepower.

"While improved roads will do much to increase the sale of motor vehicles, the last legislature passed another law which will have a tendency to interfere somewhat with the general use of automobiles in some localities. This law gave to each local government the right to regulate the running of automobiles in their respective jurisdictions. It was claimed while the bill was up for consideration that owing to the narrow roads so prevalent in Nova Scotia, it was dangerous for farmers with teams to meet automobiles, as the drivers of the latter disregarded the rights of the former, which has resulted in accidents. Of the 24 municipalities (districts), 34 towns, and 2 cities in the province, four municipalities and two towns have regulated the running of automobiles and prohibited them on the following days: Pictou—Sunday, Tuesday, Wednesday, Thursday and Saturday; Kings—Thursday, Saturday and Sunday; West Hants—Tuesday, Thursday, Saturday and Sunday; Yarmouth—Saturday; Town of New Glasgow—Sunday, Tuesday, Thursday and Saturday; Town of Pictou—Sunday, Tuesday, Wednesday, Thursday and Saturday.

"Medium and low priced cars are mostly in use, and there is no question but what a larger business could be done here if the market were properly looked after. The duty on automobiles from the United States is 35 per cent ad valorem; from Great Britain a duty of 22½ per cent. ad valorem is charged."

Chicago Eager for Stock Chassis Race.

Chicago is more anxious than ever to get the stock chassis race for the Jefferson De Mont Thompson trophy, next spring. The contest committee of the Chicago Automobile Club has laid out a new course 22 miles in length, that is declared by persons who ought to know, to be 50 per cent. better than the circuit over which the Briarcliff race was run last April—an opinion which would probably not be disputed by anyone familiar with the Westchester county course. President Cobe, of the C. A. C., wants Mr. Thompson to visit Chicago and personally inspect the proposed circuit in Indiana, which is macadam the entire distance. The club has had taken a number of photographs of the course to submit to the American Automobile Association, when it applies for a sanction to hold a stock car race.

Jackson Heads Grand Rapids Club.

At the annual meeting members of the Grand Rapids Automobile Club elected James R. Jackson, president for the ensuing year. Jackson has been identified with motoring for some time and at present is vice-president of the Michigan State Automobile Association. Other officers chosen were, first vice-president, Louis C. Parmenter; second vice-president, George J. Henzelman; secretary, Dr. Warnshuis, and treasurer, Dr. Willard Burleston. These officers and Dr. D. Emmet Welsh and A. A. Barber, will comprise the board of governors.

Los Angeles Dealers Plan a Show.

The last week in January has been selected for an automobile show in Los Angeles, Cal., to be run by Dick Ferris, on behalf of the Automobile Dealers Association of Southern California. The entire basement of a very large building at Broadway and Eighth street has been selected for the exhibition. So large is the space that a real automobile race in the show room is promised as an amusement feature to draw the public.

Manager Selected for St. Louis Show.

To manage the third annual automobile show to be held in St. Louis, Mo., February 15 to 20 inclusive, Lloyd Rickert, secretary of the American Baseball Association, has been selected. The exhibition will be given in the new Coliseum building, Jefferson and Washington avenues.

Memphis Show Scheduled for March.

Memphis, Tenn., is to have an automobile show, which will probably be held in the Auditorium building. The dates chosen are March 10 to 13, inclusive.

SEASONING JUSTICE WITH SENSE

Massachusetts Magistrate Says Skid Chains Can't Damage Ice Covered Roads—He Pigeonholes a Prosecution.

Judge Bruce, in the district court at Malden, Mass., on December 17, held the opinion that while it was a technical violation of the law to drive a car equipped with skid-chains or metal studded tires, a motorist should not be fined for piloting a car thus equipped if there is snow on the ground.

The local police arrested Howard A. Lothrop, Joseph L. Goodale and Matthew C. Brush, all of Boston, for driving over the Parkway through Malden and Medford with tire-chains attached. Judge Bruce immediately asked the park officers if the road was covered with snow or ice at the time the offenders drove through it and was told that it was. The court asked if there were any bare spots visible and the officers replied in the negative. With that, the judge decided to place the case on file and while he could not discharge the defendants or dismiss the case, on account of the violation, he held that roads could not be damaged by chains when there was thick snow on the ground and firmly believed that when roads are slippery, chains or studded bands are a necessity. He told the drivers, however, that they and all all other motorists using chains, would have to do so at their own risk, in event of encountering bare spots in the road, in which case they are liable to arrest and fine.

This unique decision highly pleased the owners, who expect to take the risk when more snow falls.

Toronto Provides for Foreign Exhibitors.

For the benefit of exhibitors from "foreign" countries, including the United States, the management of the third annual automobile show at Toronto, Ont., has arranged to make the exhibition building a bonded warehouse, where exhibitors' goods will be received duty free. The show, which will be given under the auspices of the Ontario Motor League, will take place in the St. Lawrence Arena, February 18 to 25. The manager is R. M. Jaffray, 1 Wellington, West, Toronto.

Portugal's Automobile Census Small.

Portugal at present boasts in all of 838 automobiles, according to a recent report, of which 501 are permanently located at Lisbon and 148 in Oporto. In an effort to stimulate the movement to renewed vigor, however, it is stated that the Royal Portuguese Automobile Club is endeavoring to secure a reduction in the import duties on cars, tires and component parts, and a simplification of the customs formalities requisite for admittance of the goods.

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The Inter-State

The INTER-STATE Automobile is built for the intelligent purchaser who wants the high quality which heretofore has been found *only* in *high-priced* cars, but who does not want to pay from twenty-five hundred to five thousand dollars.

The INTER-STATE makes it unnecessary for such purchasers to pay such prices. It is a *permanent* car, embracing every essential factor of worth in automobile design, style, comfort, speed, endurance, dependable materials and workmanship. And it is sold at a price—$1750 complete, *including Eisemann Magneto*—but little higher than the "good-enough-until-later" cars.

There is no economy and most assuredly no automobile satisfaction in buying a car that you want to discard the second season for a *real* car. Especially since you can buy the *real* car, the *satisfying permanent* car *this* season for just a little more money than a temporary car.

In justice to your own best interests, let us urge you not to *think* of spending your money for a "cheap" car, or even a higher-priced good car, until you have seen the INTER-STATE. We are glad to let you be the sole judge as to its worth at $1750.

Dealers and Agents will appreciate the opportunities opened to them by the INTER-STATE. Write for our attractive proposition.

INTER-STATE AUTOMOBILE CO.

126 Willard Street **Muncie, Indiana**

At the Shows The full line of Inter-State automobiles, including Standard Touring Car, Demi-Tonneau, Double Rumble Roadster, Single Rumble Roadster and Tourabout, will be exhibited at Grand Central Palace, New York, December 31-January 7, and at the Coliseum, Chicago, February 6-13.

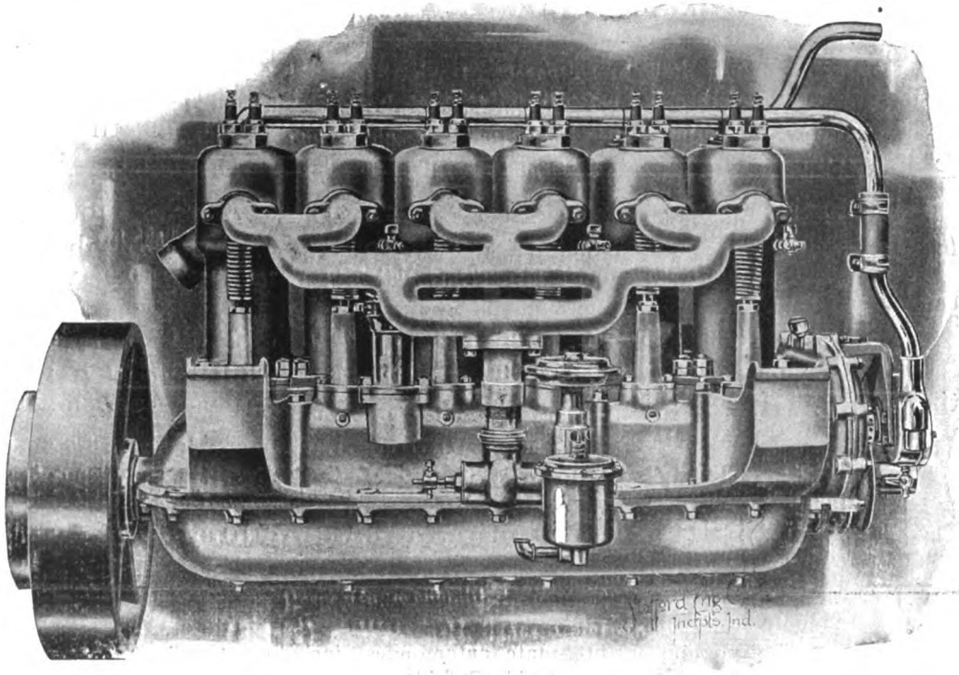
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WARNING

NOTICE to MANUFACTURERS of EXPLOSION ENGINES used for any purpose

I am the owner of the Letters Patent of United States No. 617,806, granted to F. E. Canda, January 17, 1899, for electric Igniter for Explosion engines, and letters Patent No. 905,625 granted to Elmer Apperson, December 1st, 1908, for improvements in Explosion engines.

Briefly stated, these patents cover broadly the use of two or more separate electric igniting devices, provided with separate circuits and means of throwing the igniting devices into or out of action simultaneously or independently; as well as covering the use of two or more spark plugs or sparking points having electrical connection with a magneto and battery with means of throwing the spark plugs or points into or out of operation.



MOTOR ILLUSRATING APPERSON SYSTEM OF IGNITION UNDER PATENTS 617,806 AND 905,625.

All parties now using or desiring to use this system of ignition are invited to negotiate with me. I have no desire to unnecessarily embarrass any one, but INFRINGERS on my patents will be legally and vigorously prosecuted.

ELMER APPERSON.

Apperson Bros. Automobile Company, Kokomo, Ind.

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The Week's Patents.

899,186. Internal Combustion Engine. William Rabsilber, New York, N. Y. Filed June 24, 1907. Serial No. 380,380.

1. The combination of a reservoir for comprssed air; a reservoir for fuel; an internal combustion engine connected with both said reservoirs; an air compressor connected with said reservoir for compressed air; means controlling the supply of compressed air and fuel from said reservoirs to said engine; and means for heating the entire contents of one of said reservoirs before admission to said engine, said reservoirs being separate and free from communication with each other.

899,216. Internal Combustion Engine. Thomas W. Hendry, San Francisco, Cal. Filed Nov. 6, 1906. Serial No. 342,247.

In an internal combustion engine, a cylinder having discharge ports, and an inlet port, a piston having a laterally extended straight wall passage arranged to communicate with the inlet port, the piston passage terminating in a short nozzle at the center of the piston head in the line of the axis of said piston, the wall of the said passage opposed to and distant from said port being provided with a curved pocket concaving or bulging away from said inlet port and providing for the impingement of the charge thereagainst and by which the force of the stream of incoming gas is broken and the stream is thence deflected through the nozzle in a straight line following the axis of the cylinder.

899,253. Vehicle Guiding Means. Leslie S. Hackney, St. Paul, Minn. Filed Aug. 9, 1907. Serial No. 387,771.

1. A vehicle track having an upper or tread surface to receive the vehicle or car wheels, a yoke mounted on the frame of the vehicle and having arms yieldingly held toward said track, wheels mounted on said arms and having flat treads adapted to rest and normally travel on the top of said track, said wheels having flanges on one side arranged to extend down beside the rails and contact with the inner faces thereof, whereby the vehicle wheels will be held on the track and said flanged wheels revolving in planes parallel substantially with the plane of the vehicle wheels, substantially as described.

899,331. Wheel for Vehicles. William H. Scrymgour, London, England. Filed Aug. 12, 1907. Serial No. 388,208.

In vehicle wheels a coiled, or spiral springy metal piece, secured at, or near, one end, to the hub, and at, or near the other end, to the interior of the outer part or rim, and metal springs to give resiliency, and strength in the space between the hub and the interior of the outer part, or rim, and bearing on the said coiled or spiral springy metal piece; substantially as herembefore described.

899,332. Spring Wheel for Vehicles. William H. Scrygour, London, England. Filed Sept. 30, 1907. Serial No. 395,191.

1. In a vehicle wheel comprising discs mounted free to rotate on an axle and bolted together, the combination therewith of blocks or shoes pivotally mounted in said discs near the periphery thereof, an elliptical spring fixedly carried by said axle to be engaged with by the wheels of said block on the minor axis of said spring to cause said blocks to have engagement with the road surface for a fractional space of time to support the load.

899,333. Vehicle Wheel. Isaiah C. Scudder, New York, N. Y. Filed Feb. 16, 1907. Serial No. 357,637.

1. In combination, a vehicle wheel having an outer metallic band, a detachable rim, oppositely disposed locking rings adapted for locking said rim to said metallic band, and means for simultaneously forcing said locking rings into place, said means including a plurality of radially movable U-shaped clamps.

899,425. Resilient Wheel. James E. McQuilkin, Westmoreland county, Pa. Filed Feb. 4, 1908. Serial No. 414,230.

1. In a wheel, the combination of a boxing formed in its periphery with a plurality of sockets, a hub encircling the boxing and spaced therefrom, an annular cushion interposed between the hub and the boxing, a tie band carried by the cushion and formed with inwardly disposed lugs seated in the respective sockets of the boxing to prevent the cushion from rotating relative thereto, and means for rigidly securing the cushion to the hub.

899,430. Means for Raising Vehicle land. Filed July 15, 1907. Serial No. 383,-Bodies. Arthur J. Pack, Brighton, Eng-738.

In a means for raising vehicle bodies, the combination of a chassis, a vehicle body hinged thereto, a jointed supporting leg pivoted to said chassis and said body, and adapted to be folded over upon itself when not in use, and a telescopic spring support pivoted to the chassis at one end, and to one of the members of the leg at the other end, one of the folded members of said leg being provided with means to prevent said members from striking against each other, substantially as described.

899,468. Spring Repairer. William R. Petze, Brooklyn, N. Y. Original application filed Feb. 16, 1907. Serial No. 357,715. Divided and this application filed Sept. 5, 1907. Serial No. 391,478.

1. A device for repairing semi-elliptic vehicle springs, consisting of a tie-piece shorter than said spring and having its major portion spaced away from said spring and having means near one of its ends for attachment to a vehicle, and means for fastening said tie-piece to said spring at one side of a break in the spring.

899,498. Starting Mechanism for Gas Engines. William K. Andrew, Milwaukee, Wis., assignor to International Harvester Company, a Corporation of New Jersey. Filed Nov. 26, 1906. Serial No. 345,245.

1. A starting mechanism for gas engines, including, in combination, a supplemental valve casing having an annular chamber therein communicating with a supply of compressed air and the engine cylinder, an inlet valve controlling the admission of air to said chamber and opening against the pressure of air from the source of supply, a supplemental exhaust port communicating with said chamber and the engine cylinder, a valve controlling said exhaust port and opening against the pressure of air in said chamber, said valves being opened by a moving part of the engine and closed by the pressure of air.

899,526. Transmission Mechanism. Adam F. Glaser, Jersey City, and John Olsen, Whippany, N. J., assignors of one-third to George W. Crane, Rahway, N. J. Filed July 20, 1907. Serial No. 384,824.

1. A transmission mechanism comprising a driving shaft provided with a worm, a casing inclosing said worm, a worm con-

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nected with said casing, a valve member surrounding said worms, and means for adjusting said valve member with respect to said worms to cause a fluid like substance operated by said worms to cause rotation of said casing.

899,534. Universal Joint. Ernst G. Hoffmann, New Rochelle, N. Y. Filed June 19, 1907. Serial No. 389,683.

1. A universal joint comprising an inner terminal member provided with pivot bearings, an intermediate member embracing the inner member and provided with internal bosses to receive the pivot bearings of the inner member and with external pivot bearings, and a ring-like outer terminal member having internal bosses with slotted walls to receive pivot bearings of the intermediate member and bearing rings to retain the pivot bearings in the slotted bosses.

899,537. Automobile. Thomas B. Jeffery, Kenosha, Wis. Filed Aug. 25, 1902. Serial No. 120,924.

1. In an automobile, the combination with the frame for supporting the engine comprising side beams, a cross beam supported at its ends by the side beams and a brace extending above the cross beam and also supported at its ends by the side beams, a socket secured to the cross beam and brace of said frame, a steering rod supported within said socket whereby the body of the vehicle may be removed without detaching the steering rod support.

899,611. Wheel. William H. Parham, Paducah, Ky. Filed May 15, 1907. Serial No. 373,796.

1. In a wheel of the class described, the combination of a rim, a hub, spokes secured to the hub and to the rim and including resilient loops, and tension devices movable radially of the wheel between the rim and the hub and connected to one of the said parts and engaging the loops of the spokes to vary the tension of the latter.

899,618. Starting Device for Gasolene Engines. Frank Reynolds, Syracuse, N. Y. Filed Feb. 17, 1904. Serial No. 194,000.

1. In a gasolene engine, the combination with the explosion cylinder, electric spark plug therein, and exhaust means, of a starting device comprising a tank for storing explosive mixture under compression, a passage leading from the tank to a said cylinder, a valve controlling the supply of compressed mixture to the passage, a valve controlling the admission of mixture from the passage into the cylinder, electric contacts, an electric circuit maker and breaker adjacent to said contacts, and a manually operated means for actuating said valves and circuit maker and breaker.

899,620. Tire Inflater for Automobiles. Peter J. Ross, Trevor, Wis.; Donald C. Ross, Rydnre, N. D., administrator of said Pter J. Ross, deceased. Filed Jan. 2, 1908. Serial No. 408,957.

1. An automobile tire inflater comprising an air pump adapted to be coupled to the engine shaft when desired, in combination with a flexible hose of suitable length extending from said air pump and a coupling member on the free end of said hose for attaching the same to the tire plug, said coupling member comprising a tubular handle portion attached to said hose and a transverse tubular portion arranged at the opposite end thereof forming a T shaped member, a coupling nipple arranged at one end of said transverse portion a safety valve arranged at the opposite end thereof, the first said tubular portion having a discharge opening, a valve for closing said opening and mounted upon a suitable parsaid lever being arranged substantially parallel with said handle portion and adapted to be simultaneously grasped therewith to manually depress the valve to close said discharge opening substantially as described.

899,668. Spring Wheel. Henry E. Heaton, Oroville, Cal. Filed May 7, 1907. Serial No. 372,351.

In a spring wheel, the combination of a hub, a hollow annular rib upon the hub and formed of sheet material having the edges thereof extended outwardly to form flanges which are secured to the hub, a body portion comprising an inner rim, a reinforcing casing of U cross section applied to the inner rim of the body portion of the wheel to the annular rib of the hub, alternate strips being arranged in a reverse manner and each of the spring strips having one of their ends secured to the rim upon one side of the whee while the opposite end is secured to the rib on the other side of the wheel, the end portions of the spring lying in approximately parallel planes while the intermediate portion is reversely curved.

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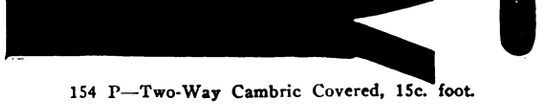
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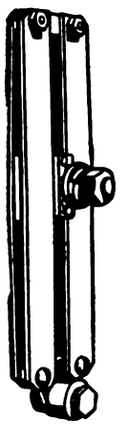
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1909

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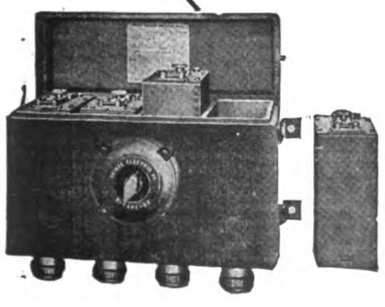
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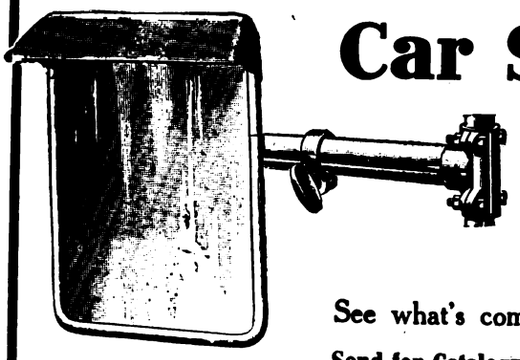
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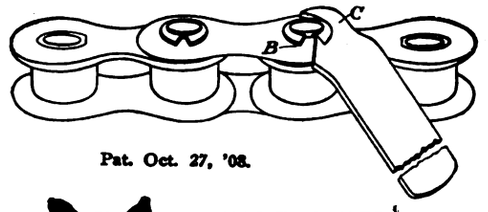
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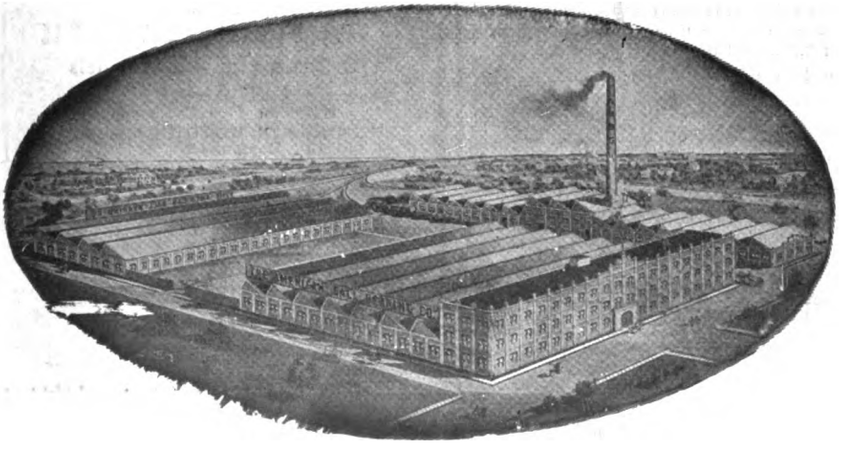
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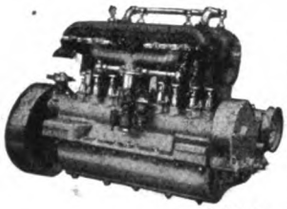
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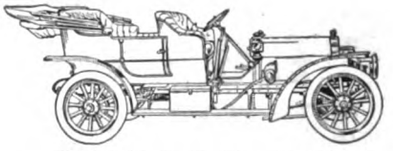
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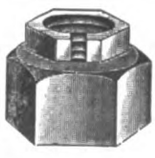
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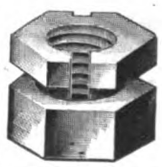
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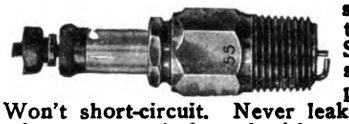
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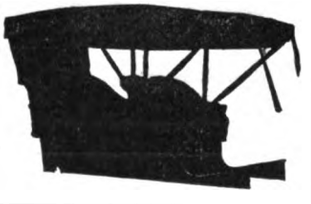
It is not possible for any chain to be better than
BALDWIN CHAINS
BALDWIN CHAIN & MFG. CO.
Worcester, Mass.

The Acme JUSTIFIES ITS NAME
THE ACME MOTOR CAR CO.
Reading, Pa.

PALMER SINGER
1620-22-24 Broadway, New York
1321 Chicago, Ill. Michigan Ave.,
PALMER & SINGER MFG. CO.

MICHELIN
FRANCE. ENGLAND. ITALY. AMERICA.
MICHELIN TIRE COMPANY
MILLTOWN, N. J.

SPRINGFIELD TOP (Pat. 1895)
Aluminum Bodies
SPRINGFIELD METAL BODY CO.,
366 Birnie Ave.,
Springfield, Mass.



THOMAS SHOCK ABSORBERS
on your automobile mean more comfort, speed, safety, economy. Prove it at our expense. 30 days free trial.
BUFFALO SPECIALTY CO.,
340 Ellicott St. BUFFALO, N. Y.

Studebaker
Gasoline and Electric—for Pleasure and Business
Studebaker Automobile Co., South Bend, Indiana



Steel Tires
Full of Air.
Tire expense cut in two.
Cannot Blow Out, Rim Cut or Puncture.
As Flexible as Rubber
Anti-Skid.
That part of a tire with a blowout or a rim cut in it will last longer than any other part if encircled by a few sections of steel.
Thousands in use.
Kimball Tire Case Co.
172 Broadway
Council Bluffs, Iowa

THE MOTOR WORLD PUBLISHING COMPANY
154 Nassau Street, New York
Enclosed find $2.00 for which enter my subscription to
The Motor World
for one year, commencing with the issue of _____
Name _____
Address _____

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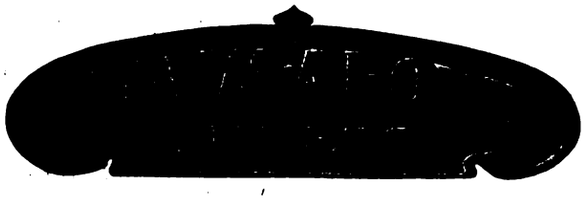


STEPNEY
SPARE WHEEL

Every motorist should carry a "Stepney" and avoid all troublesome delays caused by punctures and blowouts. Write for Catalogue D.

The Only Cure for Tire Troubles

DISTRIBUTORS — AMERICAN STEPNEY SPARE WHEEL CO., 1773 Broadway, New York Ciy. AUTO SPARE WHEEL CO., 22d, Oak and Gillham Blvd., Kansas City, Mo. EXCELSIOR SUPPLY CO., 1436 Michigan Ave., Chicago, Ill.



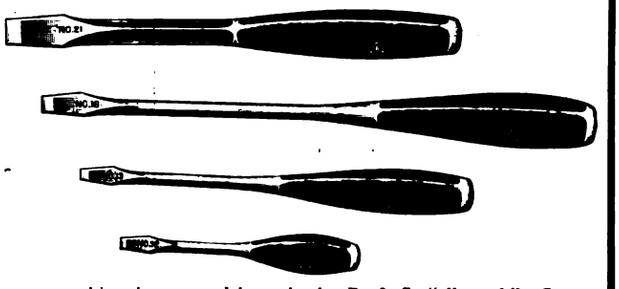
For Automobile Bodies, Dashes, Guards, Bonnets, Battery Boxes, Drip Pans, Mufflers, Etc.

STRONG—DURABLE
CALELESS—RUSTLESS
SMOOTH—PAINT ADHERES FIRMLY

A Metal That's A Time and Money Saver.

THE STARK ROLLING MILL COMPANY, CANTON, OHIO

ALL STEEL



The newest thing in screw drivers is the B. & S. "all steel." Complete in ONE PIECE, handle and all. Light and durable. The most sensible screw driver ever made. Don't fail to get circular.

THE BILLINGS & SPENCER CO., Hartford, Conn.



Cramp — Metals

"Oldest Makers in America"

$3000

HAYNES

Kokomo, Ind.

Model B—Brush Runabout

A CAR OF SIMPLE DESIGN MADE WELL
NOT A COMPLICATED DESIGN MADE CHEAPLY

Its records and the opinions of its users speak more loudly than self praise. Agencies for 1909 are being closed rapidly. Much good territory still open.

BRUSH RUNABOUT COMPANY, Detroit, Mich.

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Volume XIX New York, N. Y., U. S. A., December 31, 1908 Number 14

THE MOTOR WORLD

A trade paper giving the World's Motor News

Ten cents a copy—
Two dollars a year

HIGH TENSION
VOLTA

The Guaranteed Magneto

We guarantee the Volta magneto as a perfect ignition system in itself and we expect the user to hold us absolutely to our word. In efficiency, simplicity and accessibility the Volta stands alone.



Witherbee for Ignition

Wico Charging Device, Wico Ignition Wire, Wico Spark Plugs, Witherbee Batteries, Wico Inspection Lamp.

WITHERBEE IGNITER COMPANY

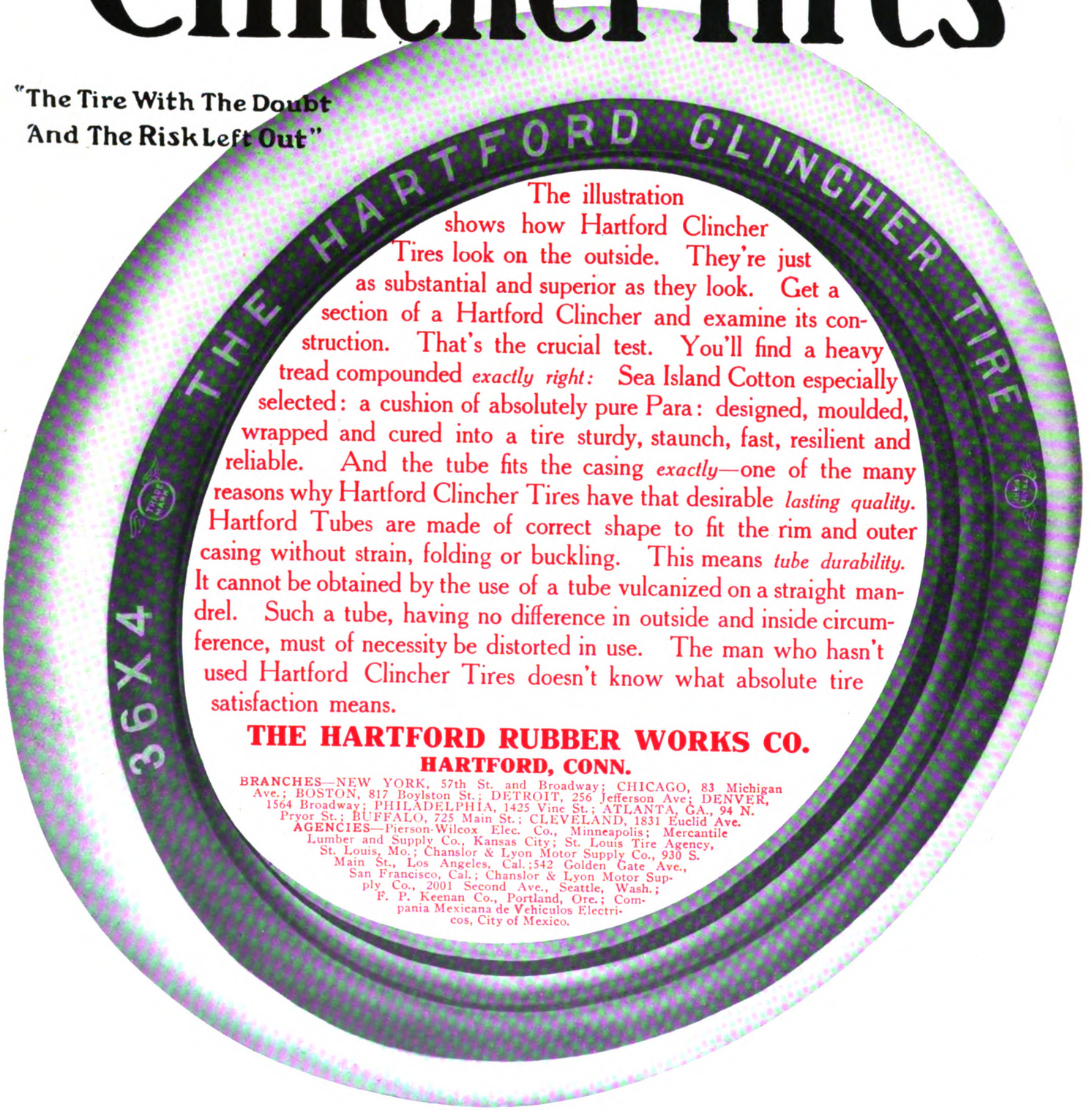
Makers of the Famous Witherbee Battery. 1876 Broadway, New York

A. M. C. M. A. SHOW FORECAST

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HARTFORD Clincher Tires

"The Tire With The Doubt And The Risk Left Out"

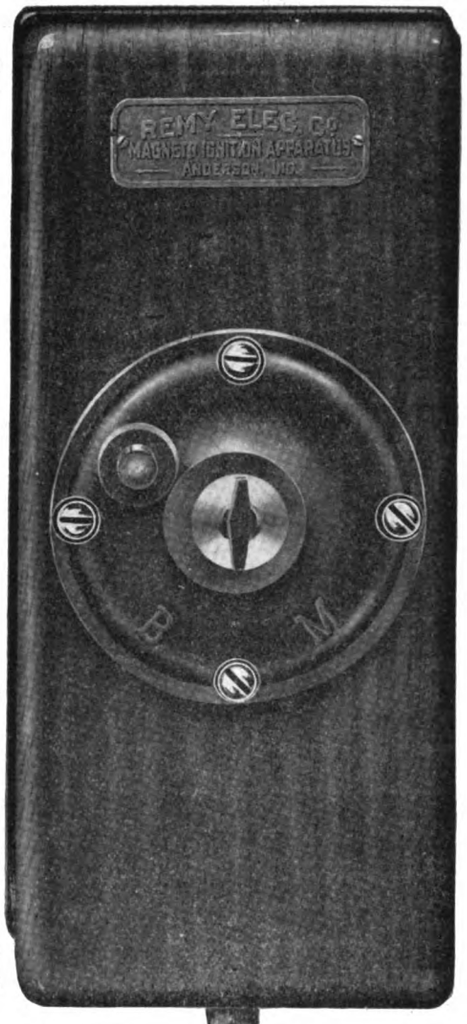


The illustration shows how Hartford Clincher Tires look on the outside. They're just as substantial and superior as they look. Get a section of a Hartford Clincher and examine its construction. That's the crucial test. You'll find a heavy tread compounded *exactly right:* Sea Island Cotton especially selected: a cushion of absolutely pure Para: designed, moulded, wrapped and cured into a tire sturdy, staunch, fast, resilient and reliable. And the tube fits the casing *exactly*—one of the many reasons why Hartford Clincher Tires have that desirable *lasting quality.* Hartford Tubes are made of correct shape to fit the rim and outer casing without strain, folding or buckling. This means *tube durability.* It cannot be obtained by the use of a tube vulcanized on a straight mandrel. Such a tube, having no difference in outside and inside circumference, must of necessity be distorted in use. The man who hasn't used Hartford Clincher Tires doesn't know what absolute tire satisfaction means.

THE HARTFORD RUBBER WORKS CO.
HARTFORD, CONN.

BRANCHES—NEW YORK, 57th St. and Broadway; CHICAGO, 83 Michigan Ave.; BOSTON, 817 Boylston St.; DETROIT, 256 Jefferson Ave; DENVER, 1564 Broadway; PHILADELPHIA, 1425 Vine St.; ATLANTA, GA., 94 N. Pryor St.; BUFFALO, 725 Main St.; CLEVELAND, 1831 Euclid Ave.
AGENCIES—Pierson-Wilcox Elec. Co., Minneapolis; Mercantile Lumber and Supply Co., Kansas City; St. Louis Tire Agency, St. Louis, Mo.; Chanslor & Lyon Motor Supply Co., 930 S. Main St., Los Angeles, Cal.; 542 Golden Gate Ave., San Francisco, Cal.; Chanslor & Lyon Motor Supply Co., 2001 Second Ave., Seattle, Wash.; F. P. Keenan Co., Portland, Ore.; Compania Mexicana de Vehiculos Electricos, City of Mexico.

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This is the Magneto that Stands the Most Abuse—See it at the New York and Chicago Automobile Shows

The Remy High Tension Magneto is designed especially for American Automobiles. The broadest margins for abuse—both electrical and mechanical—are afforded on the Remy. It is "fool proof."

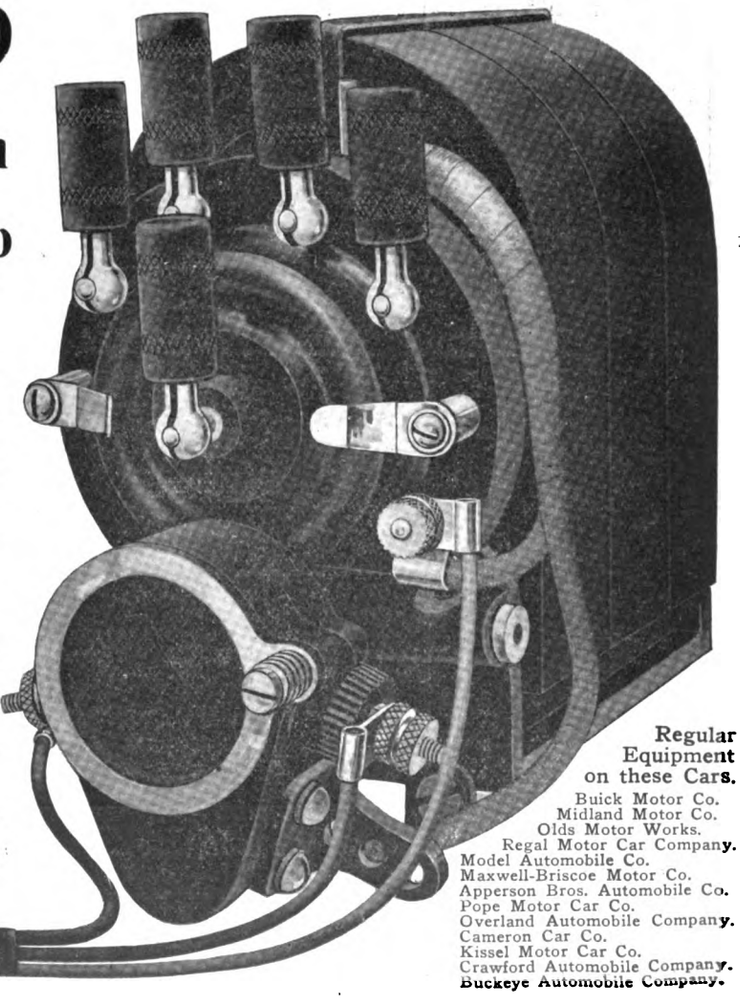
Positive firing is assured by the Remy under conditions of oil, dirt and water that puts its competitors out of commission.

It will fire the motor properly running at a lower speed than any other Magneto in the world. This is a big point in cities, where cars must be run at low motor speed as often as high motor speed.

Anybody can install a Remy whether he is a skilled mechanician or not.

This is the Magneto without brushes. No brushes to wear out, give trouble or be replaced.

The Remy 1909 High Tension Magneto



Double ignition with one set of spark plugs is another Remy feature originated by us.

Starting may be done from the seat of the car without cranking—with the greatest certainty of any system starting from the spark.

We have sold on minimum specified deliveries over 17,000 Magnetos for 1909 cars. More of these Magnetos are already sold than all other makes combined.

With automobile manufacturers continually striving to build better cars than their competitors, there is a reason for their adopting the Remy Magneto.

It is designed by engineers who have been connected with automobile work since its beginning and embodies ideas suggested or approved by the largest manufacturers.

Our factory was built especially for Magneto manufacturing and is the largest of its kind in the world.

In the hill climb endurance run—speed contest—in all kinds of tryouts everywhere, the Remy has more victories to its credit than all other makes combined.

Write us today.

This is a sample of the letters we receive daily:

Boston, Mass., Sept. 30, 1908.
"Remy Electric Company.

We have recently entered several racing events and our cars, equipped with your ignition apparatus have all made wonderfully good records.

At Montreal our Model 5 had captured eight out of nine events, beating Christy and Barney Oldfield's machine and tieing for the fastest half mile track in 1.12. This car was equipped with your Magneto and as the report shows, ran faultlessly throughout the several events.

BUICK MOTOR COMPANY,
Boston Branch,
H. K. HOYES,
New England Mgr."

Write us for illustration and full description of our new high tension Magneto. We are building them in such large quantities that we can make you very attractive prices. We furnish fittings for attaching these Magnetos to many of the old models of the different American cars. Address Dept. 11.

REMY ELECTRIC COMPANY, Anderson, Ind.

We have opened a branch house at Thoroughfare Bldg., Broadway and 57th St., New York.

OUR SHOW EXHIBITS ARE LOCATED: Grand Central Palace, Madison Square Garden, Chicago Coliseum Gallery, Space No. 186. Space No. 125, Elevated Platform. Gallery, Space No. 65.

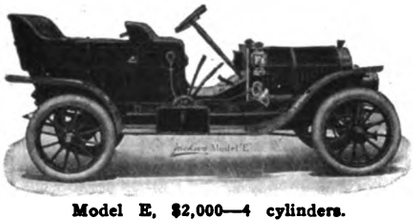
Regular Equipment on these Cars.

Buick Motor Co.
Midland Motor Co.
Olds Motor Works.
Regal Motor Car Company.
Model Automobile Co.
Maxwell-Briscoe Motor Co.
Apperson Bros. Automobile Co.
Pope Motor Car Co.
Overland Automobile Company.
Cameron Car Co.
Kissel Motor Car Co.
Crawford Automobile Company.
Buckeye Automobile Company.

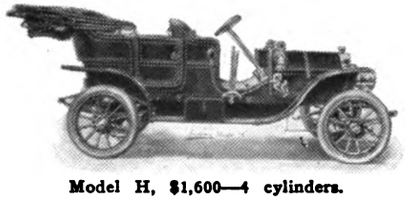
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Jackson AUTOMOBILES

Season of 1909



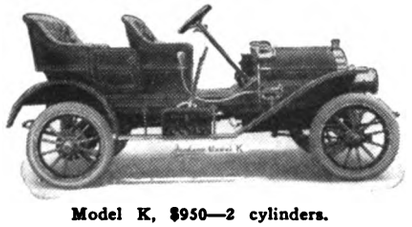
Model E, $2,000—4 cylinders.



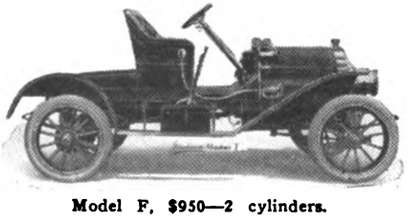
Model H, $1,600—4 cylinders.



Model C, $1,250—2 cylinders.



Model K, $950—2 cylinders.



Model F, $950—2 cylinders.

DEALERS

If you want a clean cut, up-to-date, snappy, reliable line of cars—a complete line—a dependable line it is pleasant and profitable to sell—get the

JACKSON AGENCY

THERE are especially good features to be found in Jackson cars which give them individuality. Every point is made a substantial point. Every unnecessary frill is cut out. Every possible provision is made for the comfort of those who ride in Jackson cars—notably our Jackson special full elliptic springs, front and rear, made right and tempered right in our own spring plant. Jackson cars are not only practical, in every sense, but luxurious in their easy riding qualities.

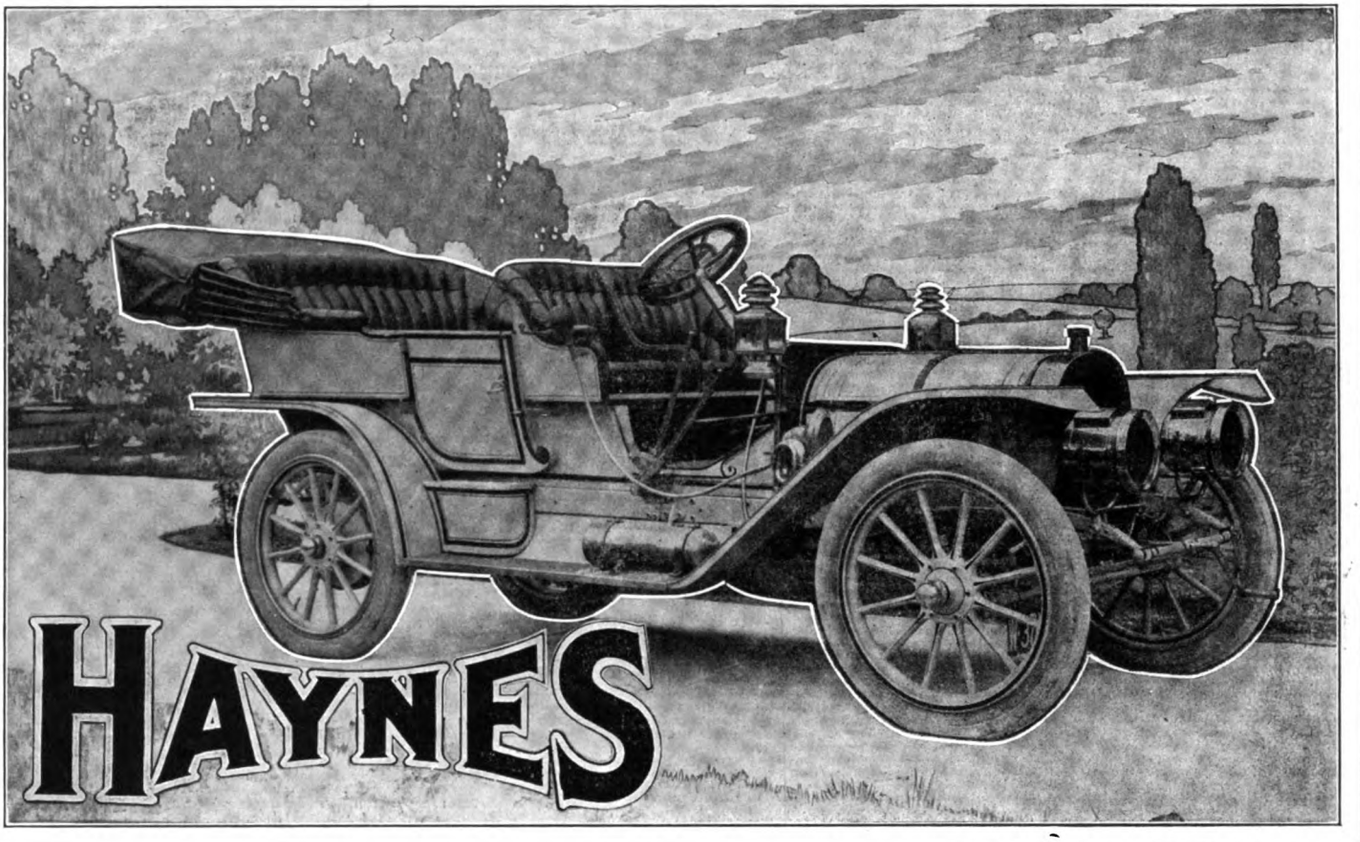
1909 Models will be exhibited and demonstrated at the Grand Central Palace Show, New York, December 31-January 6, and at the Coliseum Show, Chicago, February 6-13.

No Sand Too Deep—No Hill Too Steep

JACKSON AUTOMOBILE COMPANY

Jackson, Michigan

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The Haynes for 1909, 40 H. P., $3,000.

A Talk To Agents

People are wary of the good-looking car that a chauffeur or an expert is unwilling to commend.

Possibly there are some agents who think that the merits of the Haynes universal joints, for instance, are too technical a matter to interest the average business man that comes in to look at the car. Maybe. But next day that man's friend, who knows an automobile when he sees it, steps in.

He gets into the chassis instead of into the tonneau.

He finds the universal joints with the floating cube of solid steel that can't ever break, and the big wearing faces that never wear out.

He finds other things, too—a unique and simple roller-pinion-and-sprocket direct drive that solves certain old problems at the rear axle, obviating wear, strains, noise and friction at a place that is a danger point in most cars. He finds a better clutch than any other car ever had. He finds a ratchet gear system that prevents gear stripping. He finds a double flywheel on the motor that makes it run like a six-cylinder without a six-cylinder's cost and complication. And he finds tremendous strength, almost needless strength, everywhere.

And the man that sent him may not hear about those technical points, but he does hear something that makes him 'phone the agent to reserve that car till cheque arrives in the morning.

Certain Haynes territory is open this year, and we are ready to talk business if you are just the right man.

HAYNES AUTOMOBILE CO., Kokomo, Indiana

Oldest Automobile Manufacturers in America.

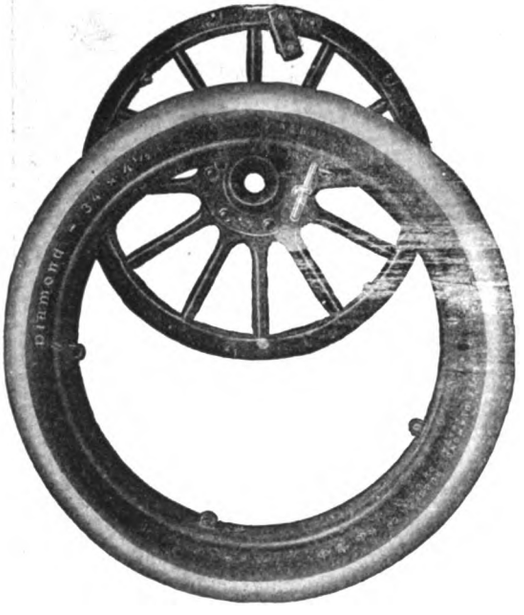
NEW YORK, 1715 Broadway — Member A. L. A. M. — CHICAGO, 1702 Michigan Ave.

FORTY-TWO HIGHEST AWARDS AND PERFECT SCORES

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For Every Day Use and Touring

Diamond Demountable Rims





For Carrying Extra Inflated Tires

¶ They won the only official test of demountable rim equipment ever made.

◆

¶ They have shown the greatest efficiency and positive security.

◆

¶ Simply remove a few nuts, slip the rim with flat tire off and slip on a fresh rim carrying the extra tire inflated and complete. Easy for the veriest novice.

Descriptive Matter and Prices on Request.

The Diamond Rubber Company

Akron, Ohio

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10 Years Foremost

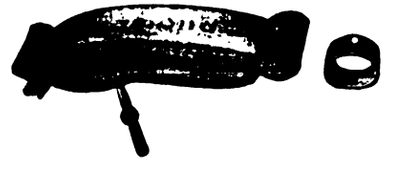
1909 Will Increase Their Lead

Diamond
Wrapped Tread Tires









Logically constructed from the beginning, their advance in efficiency has been logically worked out.

They are preeminently the tires for service.

In the successful manufacture of tires for racing cars we have made exclusive use of that test in its application to work of greater importance—the requirements of every day use and touring.

And our tires for 1909 are built with an intimate knowledge of 1908 results, coupled with the large advantage we have gained by there being more Diamond tires—both casings and tubes—in service than any other two makes combined.

There's also the quick acting rim proposition—and one 100 per cent. efficiency—The Marsh.

Inquiries Receive Every Attention.

The Diamond Rubber Company

Akron, Ohio

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ARE YOU ON?

IF NOT, GET A

Stepney Spare Wheel

AND

Be On and Gone in Less Than a Minute.

Don't Miss Your Train
Don't Miss the First Act
Don't Be Late to Business
Don't Miss Your Dinnner
Don't Freeze Your Hands

} TERRORS OF A PUNCTURE

by changing a tire, when it can be prevented by simply carrying a STEPNEY SPARE WHEEL.

Look us up at the Show or write for Catalogue D.



SPARE MOTOR WHEEL OF AMERICA
LIMITED

236 Michigan Avenue
CHICAGO, ILLINOIS

GEORGE S. MORROW, Sales Manager

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It doesn't take the automobiling public long to learn which tires are giving the best service.

G&J TIRES

are made to give the automobile owner his full money's worth in service—and that they have made good is evidenced by their ever increasing demand. You will make no mistake in specifying them on your new cars.

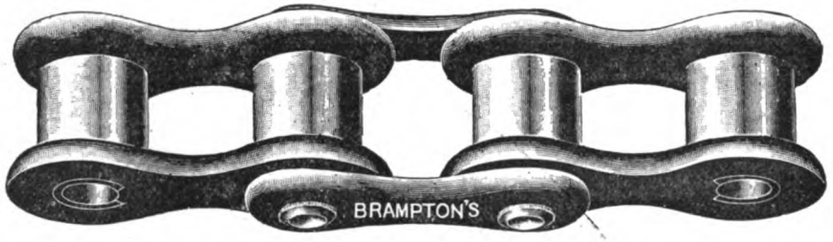
Yes, we shall exhibit at both the New York shows. If you will be there call and see us—if not, write for a copy of our new catalogue.

G&J TIRE CO.

INDIANAPOLIS, IND.

Detroit, 256 Jefferson Ave.
Chicago, 1434 Michigan Ave.
New York, 10 W. Sixtieth St.
San Francisco, 414 Van Ness Ave.
Denver, 1541 Cleveland Place.
Buffalo, 912 Main St.
Philadelphia, 713 Broad St.
Los Angeles, 1010 S. Main St.
Minneapolis, 21 S. Second St.
Omaha, 1607 Harney St.
Atlanta, 35 N. Pryor St.
St. Louis, 415 N. Fourth St.
Boston, 110 Federal St.
Portland, 326 Burnside Ave.
Kansas City, 1607 Grand Ave.
Cleveland, 326 Frankfort Ave.
Pittsburg, Baum & Beatty Sts.

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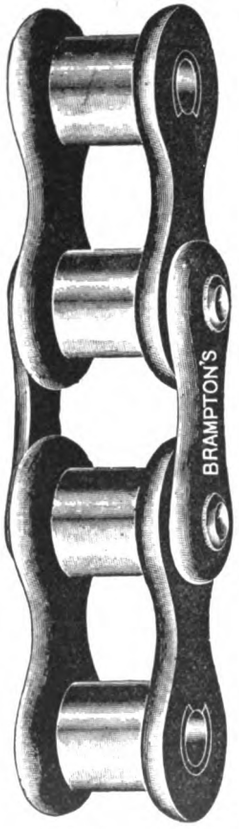


THE CELEBRATED

MUST BE SEEN

The Highest Art of

THE BRAMPTON CHAIN



The *strongest* chain in the world; made of *self-hardening steel* with large spun rivets, chamferred side plates (no sharp edges). All parts of this chain are polished and fit the sprockets (which are properly cut) without friction.

Imitation, What's the Definition?

All Brampton Chains are stamped with the name Brampton on each outside link; Beware of the imitation and get the genuine Brampton.

PRICES THE SAME AS OTHER CHAINS

American Size Brampton Roller Chain

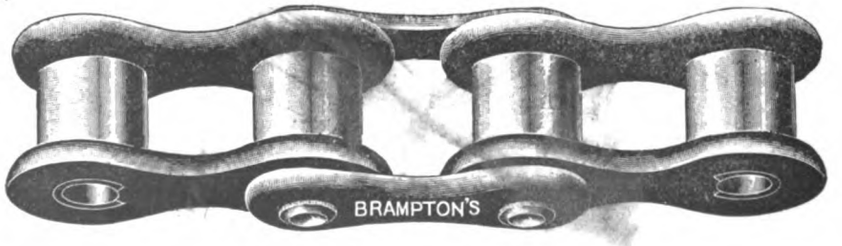
at American Chain Prices, *to fit all American Cars and Motorcycles.*

CAN BE PURCHASED FROM ALL JOBBERS

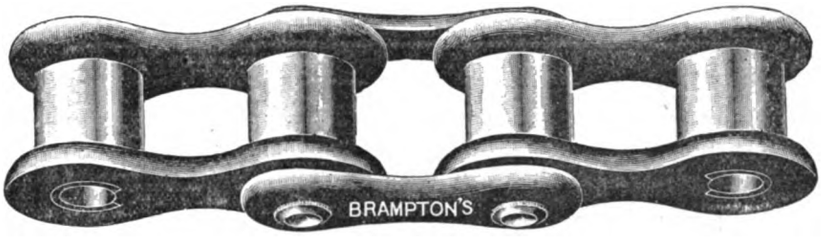
We are the Sole American Agents. Catalog on request.

CHAS. E. MILLER, Manufacturer, Jobber Exporter and Importer

PHILADELPHIA BOSTON BROOKLYN CLEVELAND



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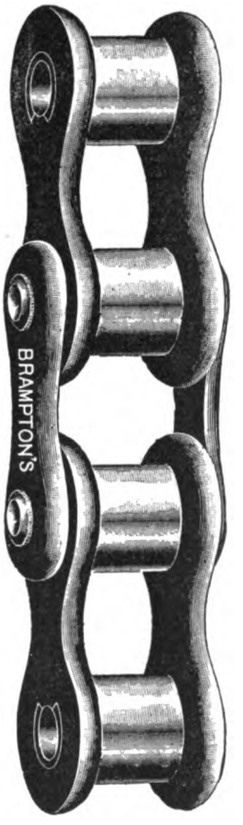
BRAMPTON CHAIN

Palace Show, Space No. 225. 2nd Floor, West End.
Garden Show, Space No. 243 2nd Balcony, North Side

Motor Chain Construction

LARGE SALES

make it possible for us to import the CELEBRATED BRAMPTON CHAIN from England (paying freight and duty) and sell it at the same price at which the several other automobile chains are sold to manufacturers, jobbers, dealers and users.



Prices Being Equal What Would You Do?

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the BRAMPTON fills the bill, and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size.

We carry in stock the BRAMPTON CHAINS to fit Foreign Cars—Mercedes, Panhard, Martini, Fiat, etc., etc.

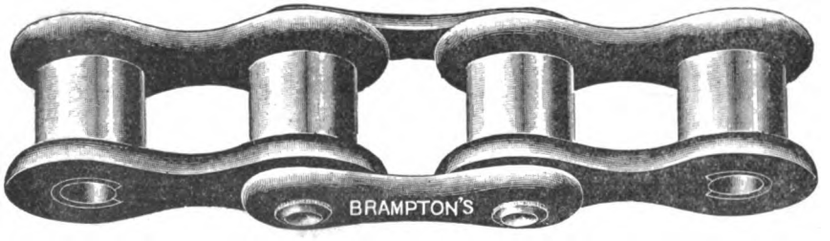
AND DEALERS OR ANY OF OUR BRANCHES

Agents Wanted in Unoccupied Territory.

HOME OFFICE

97-99-101 Reade Street, New York City

DETROIT **BUFFALO** **54th Street and Eighth Ave., NEW YORK CITY**



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THE MARION FLYER

The Car With Class

¶ 1 horsepower to every 52 pounds of actual weight.

¶ Detachable Toy Tonneau or 5-passenger Touring Car $1850.

¶ We shall exhibit at Grand Central Palace, December 31 to January 7.

Marion Motor Car Sales Co.

INDIANAPOLIS, IND.

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What Good Tires Mean To You

Throughout the world Morgan & Wright tires are known as good tires—because they are.

To the motorist this statement of demonstrated quality means much, for—

It is a guarantee against wholly unnecessary repair bills—against all repair bills, in fact, except those necessitated by accident or natural wear;

It stands for protection to the car, which can be secured only by the use of tires that are built to withstand emergency tests as well as ordinary service;

It's an assurance that you will be spared the exasperating inconvenience which always attends breakdowns of any kind—especially those against which you could be protected.

MORGAN & WRIGHT TIRES

have literally won over hundreds of motorists by reason of their protective quality—the quality that makes them absolutely safe under any condition.

Whether this protection is secured through the grade of materials used, or through our method of tire-building, or as a result of extremely rigid inspection which every tire undergoes before it is permitted to leave the factory, is comparatively unimportant to the user.

The vital consideration—and the only one that appeals to the experienced motorist—is this:

These tires actually stand up day in and day out under every condition of both load and road, as only tires can that are made as MORGAN & WRIGHT tires are.

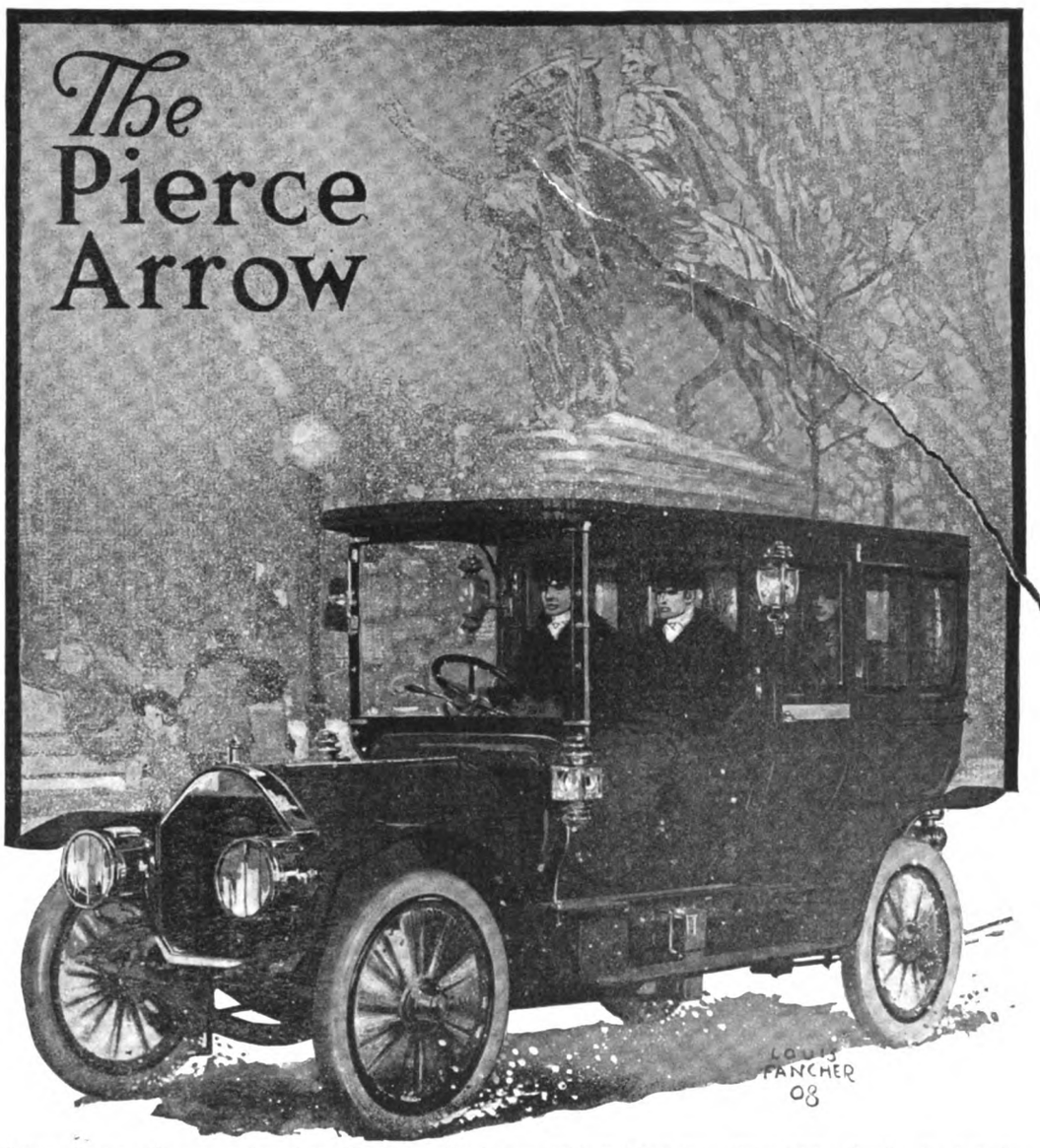
And it is because users of these tires have repeatedly found this to be true, that we invite all motorists to give them an impartial, comparative test.

There is no method of making friends
equal to the method of making good.

MORGAN & WRIGHT, DETROIT

Branches, Agencies or Dealers Everywhere

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48 Horse Power, 7-Passenger, Suburban Limousine, 6 Cylinders, 130-inch Wheel Base, Price $6100. Besides the Suburban Limousine, the other new types on this chassis include Roadster, Tourabout, Touring Car and Landau.

In a car for city use not only comfort but also elegance is needed. PIERCE ARROW Broughams and Landaulettes have all the smartness of a well-appointed carriage, the perfect service that comes from the PIERCE engine and the freedom from repairs and other annoyances which is characteristic of all PIERCE Cars.

The Pierce Arrow Cars will be exhibited in New York only at the Madison Spuare Garden Show, January 16 to 23, 1909, and at the salesroom of our New York representatives, The Harrolds Motor Car Company, 233 W. 54th Street.

THE GEORGE N. PIERCE COMPANY, BUFFALO, NEW YORK

Members Association Licensed Automobile Manufacturers.

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Night Riders!

in automobiles require perfect light—their safety and comfort depends on the efficiency of their lighting equipment.

SOLAR LAMPS

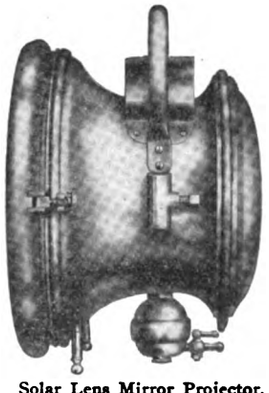
provide powerful, steady penetrating rays at all times and under any conditions. The name SOLAR on a lamp represents perfection in motor lamp construction—the highest possible standard in material and workmanship. Besides the exclusive features to be found in no other lamp, our complete line covers the greatest range of prices and variety of models. Uniform equipment on a car is an index of care and skill. A high grade car is handicapped by cheap lamps. A medium priced car increases both in efficiency and appearance by good lamps—SOLAR LAMPS.



Solar Lens Mirror Headlight, 956 A. 6-inch Lens Mirror. Each, $8.00.

Prices

Gas Headlights	from $4.50 to $62.50 each
Electric Headlights	from $8.75 to $15.00 each
Generators	from $4.00 to $12.00 each
Oil Side Lamps	from $7.50 to $22.00 pair
Electric Side Lamps	from $9.00 to $21.00 pair
Oil Tail Lamps	from $3.50 to $7.50 each
Electric Tail Lamps	from $3.75 to $6.00 each



Solar Lens Mirror Projector. 7-inch Lens Mirror. Each $17.50.

See our exhibit at the Grand Central Palace and Madison Square Garden Shows.

BADGER BRASS MANUFACTURING CO.

TWO FACTORIES:

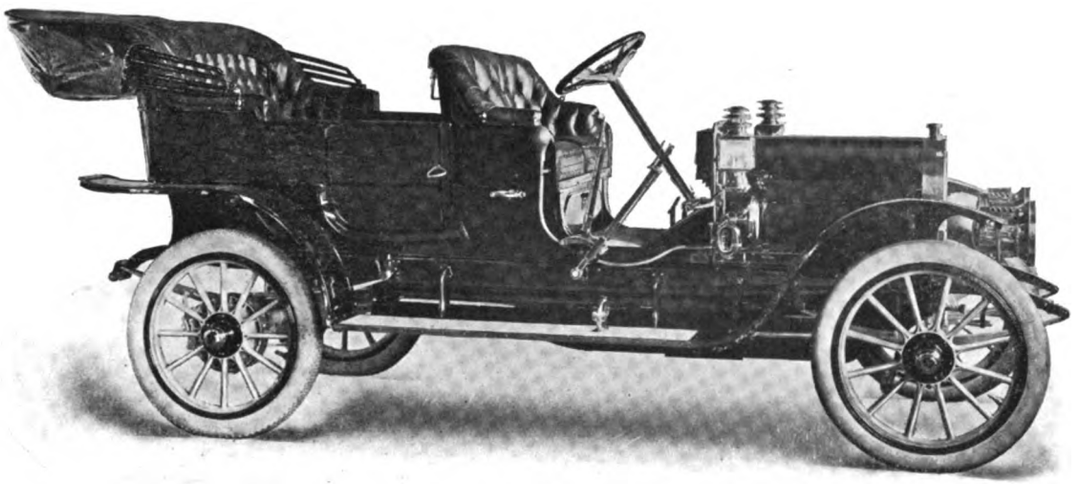
437 Eleventh Avenue, New York **Kenosha, Wisconsin**

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THE SELDEN CAR

MADE BY

"The Father of Them All"



One Price, $2,000. F. O. B. Rochester.

TOURING CAR, ROADSTER, TOY TONNEAU

A genuinely good car cannot be made and sold for less than $2,000. By this we mean a car like the Selden, containing nothing but the best of materials, workmanship and finish. A car that the manufacturer can stand behind and guarantee for at least a year against any imperfections in workmanship or material.

We buy only the best materials, employ only skilled labor and pay particular attention to details and finish, thereby producing a strictly high-grade car at the lowest possible price.

The up-keep and maintenance of a medium-priced car like the Selden is within the reach of any man of moderate means and the value of the car does not depreciate like that of the lower priced cars. This is the point to be considered by every purchaser.

The Selden Car is a 4-cylinder 28-30 horsepower (developing 37 horsepower) five passenger Touring Car or three passenger Roadster, with 114-inch wheel base, 34-inch wheels, shaft drive, selective control, pressed steel frame, metal body, fully equipped.

Superb riding, roomy tonneau, luxurious upholstery, smooth running, great hill-climber, flexible and easily handled, economical in maintenance and up-keep, fine finish, stylish and attractive.

THE OOMING CAR OF MODERATE PRICE

Catalog and Agency proposition upon request. Agencies wanted everywhere.

We will exhibit at Madison Square Garden Show.

SELDEN MOTOR VEHICLE COMPANY

GEO. B. SELDEN, Pres. Members Association Licensed Automobile Manufacturers. **ROCHESTER, N. Y.**

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How To Bring Up A Tire On A Bottle In Thirty Seconds



Goodyear Air Bottle Means No More Tire Pumping

JEVER hear of bringing up a tire on the Goodyear Bottle? Sure! It beats the old-fashioned way of bringing the tire up by hand "all hollow." Not one-tenth the trouble.

And tires brought up on the Goodyear Bottle are well brought up too,—better behaved—more healthy—live longer—do a good deal more work—save you a lot of money.

It's such a big success that we are going to give every motorist in the world a chance to try it free for two years—charging only the nominal cost of the first bottle.

The Goodyear Air Bottle is a small steel bottle charged with pure air (not gas). It is usually carried under the seat or on the running-board of an automobile.

When you want to inflate a tire, you simply attach the rubber tube from the Air Bottle to the tire—open the valve and let 'er fill.

While you stand by and comfortably watch the performance until time to shut 'er off.

Doesn't look much like your old familiar job of giving an imitation of your wash lady in the midst of her Monday morning exercise, does it? Doesn't feel like it, either.

No more back-breaking, hand-blistering tire pumping! That grim task which robbed motoring of its pleasure can be crossed *off your list of troubles.*

Any woman or child can inflate a tire with the Goodyear Air Bottle—it's so simple.

And the beauty of it is that the tire can be brought up to just the right pressure.

This is important. It makes tires last 50 per cent longer. Under-inflated tires give out quickly.

By inflating to *exactly the right pressure* with the Goodyear Air Bottle, rim-cuts and other tire troubles are avoided. Ninety per cent of tire troubles come from under-inflation.

If you have Goodyear Detachable Auto Tires on Goodyear Universal Rims, the Goodyear Air Bottle will enable you to be on your way a few minutes after the puncture occurs.

And with *any* tire, it cuts out half the work and drudgery.

Any motorist in the last Glidden Tour can tell you what a blessing the Goodyear Air Bottle is. A big truck loaded with Goodyear Air Bottles met the tourists from day to day at the various points of the tour.

All contestants who desired the Free Goodyear Air Bottle service were supplied, regardless of the kind of tires they rode.

Every day the empty bottles were taken back and replaced with fully charged ones.

Thus, the Glidden Tourists always had a fresh filling for a deflated tire right at hand—no delay—no labor.

Altogether the Goodyear Air Bottle was voted the best thing that had happened since the Glidden Tour began.



Write us for our "The Care of an Auto Tire," which gives valuable information about the care of tires and the exact pressure to which each size of tire should be inflated to give the longest service.

Our Offer to all Motorists— Free Air for Two Years

The Goodyear Air Bottle costs only $15 for the small bottle designed to carry under the seat, or $20 for the larger bottle, which is designed for carrying on the running board, filled with compressed air—no gas to ruin the tires, corrode the valves, or condense within a few hours, leaving the tires soft, thus making it necessary to constantly repeat the operation to maintain the desired pressure.

The first cost is the only cost for two years, thereafter we may make a nominal charge for refilling. But for two full years, when the bottle is empty you simply turn it in at any Goodyear Branch or listed agency and receive a new bottle, ready charged.

You do not have to wait. You exchange the empty bottle for a new charged one instantly. Each small bottle will fully inflate four to eighteen clincher tires—according to their size—and each large bottle from six to thirty-five. They will partially inflate many more. The bottles will inflate approximately 15 per cent fewer Goodyear Detachable Tires than Clincher Tires of corresponding size, the reason being that the GOODYEAR DETACHABLE TIRE IS 15 PER CENT OVER SIZE.



The Goodyear Tire & Rubber Co., Arthur St., Akron, O.

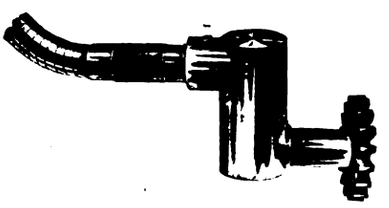
Branches and Agencies:

Boston, 261 Dartmouth Street
Cincinnati, 317 East Fifth Street
Los Angeles, 932 South Main Street
Philadelphia, 1402 Ridge Avenue
New York, 64th St. and Broadway
San Francisco, 506 Golden Gate Ave.
Chicago, 80-82 Michigan Avenue
Cleveland, 2005 Euclid Avenue
Milwaukee, 188-192 Eighth Street
St. Louis, 3935-3937 Olive Street
Buffalo, 719 Main Street
Detroit, 251 Jefferson Avenue
Pittsburg, 5988 Centre Avenue
Omaha, 2010 Farnam Street
Washington, 1026 Connecticut Ave.
Atlanta, 90 North Pryor Street
Louisville, 1049-1051 Third Street
New Orleans, 706-716 Barrone St.
Memphis, 181-185 Madison Street
Dallas, 111 North Akard Street
Denver, 28 West Colfax Avenue
Baltimore, 991 Park Avenue
Kansas City, 16th and McGee Streets

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STEWART SPEEDOMETERS EXCLUSIVELY

Many of the largest accessory dealers in the United States and Europe are stocking Stewart Speedometers exclusively



THE FAMOUS STEWART SWIVEL JOINT
(Patented)

WHY? **Because they have come to realize that with STEWART SPEEDOMETERS, guaranteed for five years, they are relieved of many annoyances incident to handling other makes.**



MODEL 11—Four-inch 60-mile dial, enclosed season odometer and automatic resetting trip register. New construction. Price **$25**

GET OUR LITERATURE

Stewart & Clark Mfg. Company

509 Diversey Boulevard, Chicago, Illinois, U.S.A.

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Every Car Runs Good On
TIMKEN BEARINGS

That's why all the good cars use them.

Look at this list of prominent Motor Cars and Transmission Makers who use TIMKEN BEARINGS either altogether or in part:

Peerless Motor Car Co.
Packard Motor Car Co.
F. B. Stearns Co.
Locomobile Co. of America.
E. R. Thomas Motor Co.
Winton Motor Carriage Co.
Lozier Motor Co.
Royal Motor Car Co.
Apperson Bros. Automobile Co.
Austin Automobile Co.
Matheson Motor Car Co.
Olds Motor Works.
Dayton Motor Car Co.
Chalmers-Detroit Motor Co.
Pope Mfg. Co.
Haynes Automobile Co.
H. H. Franklin Mfg. Co.
Premier Motor Mfg. Co.
Electric Vehicle Co.
Nordyke & Marmon Co.
Buick Motor Co.
Dorris Motor Car Co.
Autocar Co.
York Motor Car Co.
Kissel Motor Car Co.
Bartholomew Co.
Acme Motor Car Co.
Speedwell Motor Car Co.
Forest City Motor Car Co.
Colburn Automobile Co.
Atlas Motor Car Co.
Auto Vehicle Co.
Buckeye Mfg. Co.
Blomstrom Mfg. Co.
Duro Car Mfg. Co.
E-M-F. Co.
Grout Automobile Co.
Hewitt Motor Co.
T. B. Jeffery & Co.
Oscar Lear Automobile Co.
Midland Motor Co.
Moline Automobile Co.
Marion Motor Car Co.
Mason Motor Car Co.
Smith Automobile Co.
Selden Motor Vehicle.
Velie Motor Vehicle Co.
H. E. Wilcox Motor Co.
And many others.

ELECTRICS

Anderson Electric Co.
Columbus Buggy Co.
Rauch & Lang Carriage Co.
Waverley Co.
C P. Kimball & Co.
And many others.

There could be no more conclusive proof of merit than this practical endorsement.

Once a Timken User
Always a Timken User
THERE'S A REASON

Every Manufacturer knows it. Every Dealer should know it. Every Owner will insist on TIMKEN BEARINGS if they know it.

See the TIMKEN EXHIBIT at the shows or write direct for illustrated descriptive matter.

We will exhibit—Grand Central Palace, December 31st-January 7th; Madison Square Garden, January 16th-January 23; Chicago, February 6th-February 13th.

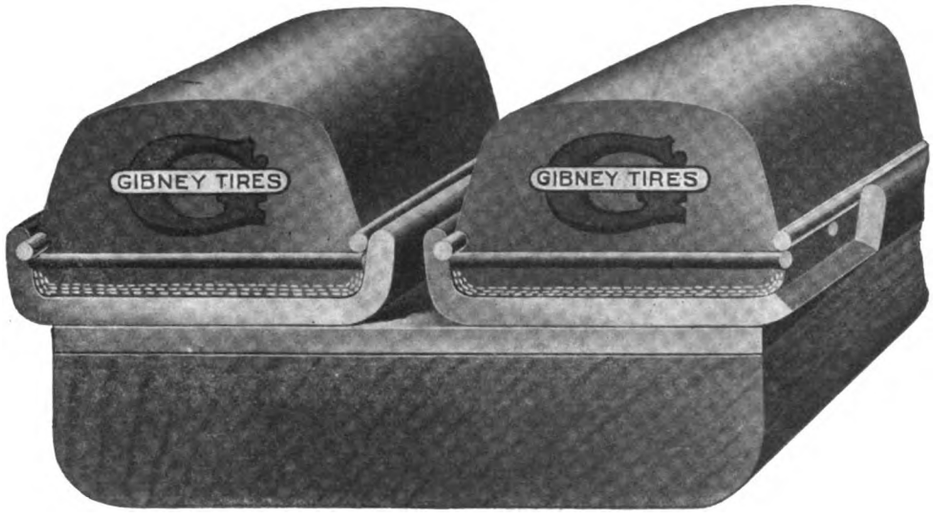
THE TIMKEN ROLLER BEARING AXLE CO., Canton, Ohio

BRANCHES—10 E. 31st St., New York. 428 Wabash Ave., Chicago.

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GIBNEY SOLID TIRES

For Commercial Vehicles and Carriages



Twin Solid Tire

The Tires for Long Wear, Hard Service, All-Round Economy

They are strong enough for the heaviest commercial truck or bus, yet resilient enough to take all the jolts and save the vehicles.

Made with the greatest possible percentage of pure Para rubber, they are without question the superior of any solid tire in the world.

The marvelous growth in sales of Gibney tires is solely attributable to the fact that they have given longer service and greater satisfaction than any tire on the market.

READY FOR DELIVERY
BECAUSE WE MAKE THEM

Distributors for CONTINENTAL "Low Cost per Mile" TIRES
Also IMPORTERS and JOBBERS of AUTO ACCESSORIES

JAMES L. GIBNEY & BRO.

211-13 North Broad Street **PHILADELPHIA, U. S. A.**

Agents Wanted Everywhere

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FOR 1909 THE
Jones Speedometer

presents the most complete and handsomely finished line of speed-indicators ever offered!

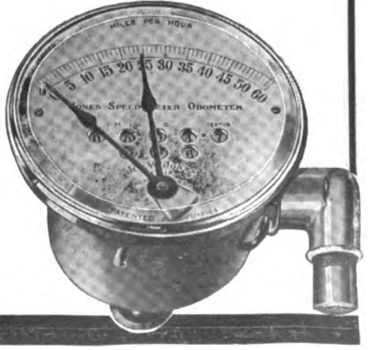
The JONES was the first speed-indicator built for automobile use—the Pioneer. From its very inception it was recognized as a PERFECT SPEED-INDICATOR. During the nine years it has been on the market the JONES has withstood every test and trial with a perfect score and has maintained the highest possible standard for

UNFAILING ACCURACY—CONSTANT RELIABILITY—EFFICIENCY

It has always been the first to adopt every refinement and improvement—other manufacturers follow its example and initiative. In handsome appearance and *actual* performance, it is not even approached by any other instrument. It is the Standard of the World—the speed-indicator by which *all* others are judged—the speed-indicator you want for *your* car!

20 different instruments raging in price from $15 to $100. Speedometer and Clock Combinations (Chelsea Movement) from $55 to $150. See our exhibits at both shows!

Write for 1909 *folder containing all Jones Models, together with prices.*



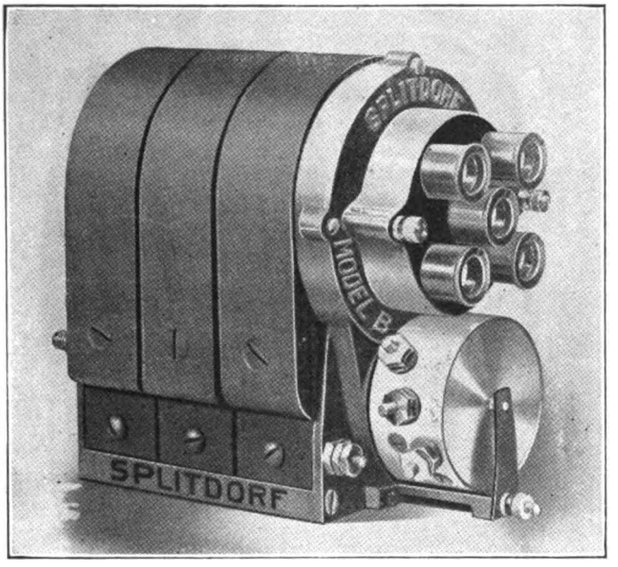
THE JONES SPEEDOMETER

76th Street and Broadway, New York

CHICAGO, 1421 Michigan Ave.; PHILADELPHIA, 259 N. Broad St.; BOSTON, 109 Massachusetts Ave.; CLEVELAND, 1841 Euclid Ave.; LOS ANGELES, 930 S. Main St.; HARTFORD, 284 Trumbull St.; SAN FRANCISCO, 544 Golden Gate Ave.; DETROIT, 247 Jefferson Ave.; BALTIMORE, 26 Franklin Bldg.; ST. LOUIS, 4630 Olive St.

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The Best Magneto Investment



is a

SPLITDORF

Not merely because it is made by the oldest and largest ignition specialty firm in America, but *because of its real value as a Magneto.*

The motoring public recognize that the creative genius exercised and the infinite pains expended in SPLITDORF construction demand a somewhat higher price, but in proportion to value received the SPLITDORF is

THE MOST MODERATE-PRICED MAGNETO IN EXISTENCE

Once and for all, it is the best that money will buy.

Fifty years of electrical engineering experience behind it.

Every part of this superb mechanism is of the most excellent material, and the construction is by the highest skill obtainable in America, embodying in every detail the most important improvement known to Magneto building. Its simplicity enables the inexperienced to install and adjust it without losing any of its efficiency. We emphatically claim it is the Most Scientific in Design, the Most Effectual in Operation, the Most Carefully Built of any Magneto extant.

Be sure to specify the SPLITDORF MAGNETO for your 1909 car. Being thus equipped you will be assured faultless ignition every day in the year.

See our exhibit at the Grand Central Palace Show—Space 107-K.

C. F. SPLITDORF

Walton Avenue and 138th Street—Branch, 1679 Broadway—New York

CHICAGO
319 Michigan Ave.

DETROIT
886 Woodward Ave.

BOSTON—Motor Mart
220 Pleasant St.

SAN FRANCISCO
520 Van Ness Ave.

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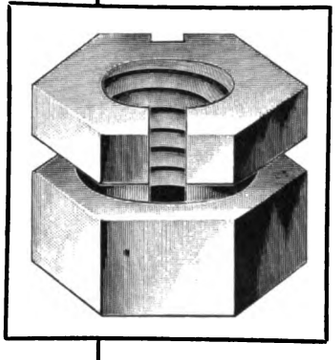
"Locking the door after the pony is stolen"

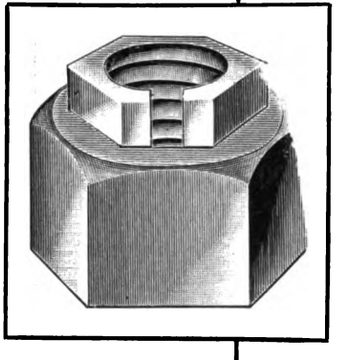
is a good deal like postponing the use of

Columbia Lock Nuts

Now

for it's only a postponement at best. Why not take a double-twist on the forelock of old Father Time and incorporate the use of Columbia Lock Nuts in your construction BEFORE you have occasion for regrets? Columbia Lock Nuts are in general use and are regarded as a necessity by some of the biggest railroad systems in the country. They ought to be a double necessity on automobiles. They are already used by many prominent makers. They should be used on every automobile everywhere.





¶Columbia Lock Nuts simply cannot work loose. Vibration, even the constant vibration of solid tires, cannot affect or loosen them. They are automobile insurance of the very best kind and their cost is not a factor. Let us prove our case.

COLUMBIA NUT & BOLT COMPANY

Bridgeport, Connecticut

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E-M-F 30

$1,250

F. O. B. DETROIT, MICH.

Magneto Included—Of Course

IF YOU'VE DECIDED TO BUY AN AUTOMOBILE

AN AD-FULL OF ADJECTIVES—a page of pretty platitudes— will not suffice to appease your craving for facts and figures—if you've made up your mind you will buy a car and it's now only a matter of deciding which car will best suit your particular needs.

YOU WANT INFORMATION—some facts you can tie to—some points you can compare—and the more the better—with similar points in other cars.

SO WE WON'T WASTE WORDS in this ad—we'll give you facts boiled down in the form of complete specifications showing just how the E-M-F. "30" is made, of what, and why.

YOU'LL FIND BY COMPARISON that this car is a full-sized, 5-passenger automobile. Same dimensions as other cars selling for twice as much, and larger—much larger—than any other car selling for the same price.

IF YOU ARE VERSED in the mechanical lore of motor car construction you will find all you desire here. If you don't know, then you know someone who does know—and the more he knows about points that spell superiority in a car the stronger will be his verdict in favor of the E-M-F. "30."

AFTER YOU HAVE DIGESTED THIS thoroughly look up the nearest E-M-F. "30" dealer—there are 500 of them—and arrange for a demonstration—that will settle the question.

SPECIFICATIONS

TYPE. 4 cylinder, Vertical, 4 cycle. Cylinders cast in pairs with water jackets integral. *Water space between cylinders* ensuring uniform expansion and contraction. Valves all one side. Mechanically operated. Interchangeable.

CYLINDERS. Bore 4". Stroke 4½". Compression—moderate. All experience has proven these cylinder dimensions to be nearly ideal for all kinds of service. They give a motor of moderate speed—which means long life. Cooling, lubricating and all other troubles which arise from short stroke, excessive bore, small exhaust valves and short bearings are entirely eliminated in the E-M-F. "30."

CRANK CASE. Cast from highest grade aluminum. Hand hole covers, stamped steel. Instead of the usual cast aluminum arms for supporting motor in frame the E-M-F. motor is carried on pressed steel members in "U" section—no heavier—three times as strong.

VALVES. Are extra large—2¾"—made from special steel, drop forged. Stems and seats ground. Valve guides machined and pressed into place instead of being cast integral with cylinders—easily replaced when worn.

All engineers agree that large valves not only make for efficiency, but also for economy. A four cylinder motor of 4" x 4½" may, by scientific design, accurate workmanship and large valves be made to develop 30 to 35 horse power at 1000 revolutions per minute, or it may develop 16—if valves are under-size or the design faulty in other ways.

VALVE PORTS. Inlet and exhaust passages very large and unobstructed—eliminating all chance of eddy-currents, ensuring maximum power efficiency and perfect cooling qualities.

VALVE OPERATION. Single cam-shaft made from high grade steel, drop forged with *all cams integral.* After milling, cam-shaft is case hardened, and all cam surfaces as well as bearings are ground to micrometrical accuracy—guarantees silent running and consistent performance at all times.

CRANK SHAFT. *Is off-set* ¾" from centre line of cylinders—still another increase in power efficiency with minimum of wear on cylinder walls and pistons. Crank shaft, drop forged from special steel. Three main bearings—all large and extra long. *All bearing surfaces ground.* Flange, forged integral on crankshaft carries fly-wheel—ground to ensure perfect centre. Fly-wheel is also given a *running balance* at maximum motor speed to ensure accuracy and absence of vibration.

CRANK SHAFT BEARINGS. Special babbit ("White metal" alloy) in accordance with best modern practice. Cam-shaft bearings phosphor-bronze.

CONNECTING RODS. Drop forged steel. I-beam cross section. Crank-pin bearing equal length each side of centre—not off-set. Piston pin bearings, phosphor-bronze. Wrist pin bearings, marine type—not hinged. Lined with die-cast babbit. Shims provided for adjustment, which is easily made through large hand holes in bottom of crank case.

PISTONS. Extra long—5"—ensuring good compressing and long life. Each piston ground, fitted with four rings, and *each set is weighed* to ensure perfect balance of reciprocating parts—a talking-point with some makers—a matter of course with us.

PISTON RINGS. Eccentric type; ground on periphery-face to conform to exact bore of cylinder; also on both sides.

PISTON PIN. Special case-hardened steel ground; drilled hollow to ensure perfect lubrication. Pistons, connecting rods, crank-shafts and *all reciprocating parts are mechanically balanced* to eliminate vibration.

LUBRICATION. Splash—automatic, vacuum feed—reliable and economical. Oil reservoir cast integral with aluminum crank case. After having tried countless mechanical "positive feed" oiling devices and found them all wanting in some particular, foremost engineers have decided that the only really positive feed is by gravity; and experience proves that no amount of piping to cylinders and bearings will ensure the same liberal oiling to all moving parts as the old, original splash system, by which the entire mechanism is kept constantly bathed in oil. The one shortcoming of the gravity feed system was the necessity for throttling the feed to prevent flooding, and the tubes frequently became clogged at the valves.

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By our system of vacuum regulation—the utilization of one of the simplest principles in nature—we are able to use large tubes, ⅜". This absolutely insures free flow of oil from the reservoir, and a constant level in the crank case. Radius: on one filling of oil reservoir, 300 to 500 miles according to road conditions.

COTTER PINS, lock-nuts, keys and taper pins are used at every point to guard again any part getting loose.

OIL CUPS. Are provided for every joint that may at any time require lubrication—steering knuckles, spring connections operating shafts, etc., etc.

IGNITION. Double system, consisting of (a) magneto, (b) battery. The magneto is not an extra or "special equipment." It is as much a part of the E-M-F. motor as the valves, and is included in the list price of the car. Gears and all moving parts enclosed in oil tight, dust and water proof case. In this regard the E-M-F. car sets a pace for the world, high priced cars included.

ENGINE GEARS. Cam-shaft and Magneto gears all enclosed and separated from crank chamber. Gears lubricated by non-fluid grease—not cylinder oil.

COOLING. Is by large centrifugal pump—high efficiency at slow engine speeds ensuring cooling in hill climbing and hard pulling over muddy roads. Belt driven, stamped steel fan mounted on engine—not attached to radiator. Eccentric belt adjustment.

CARBURETOR. Improved simple float, single jet—our own design. Very flexible and economical. Carburetor is located on driver's side of motor, away from hot exhaust pipes and other parts—readily accessible.

CLUTCH. Improved expanding-ring type. Leather faced. Contained in fly-wheel. Oil groove in fly-wheel with holes drilled for escape of oil obviates all liability of clutch slipping from this cause. Takes hold gently—and holds when engaged. Adjustment, accessible and easy.

TRANSMISSION. Type—Selective sliding gear. Gear case integral with differential housing in rear axle—"the unit power transmission system" so generally approved by engineers of late. Gears made from E-M-F. formula special steel. Accurately cut and oil treated. Instead of squared shaft for sliding gears, round shaft with four keys integral has been adopted—key-ways milled and *ground. Gear centers also ground* to ensure perfect alignment on shaft and silent running—details of construction heretofore known only to the highest priced cars.

SPEEDS. Three forward and reverse—direct on third.

GEAR RATIO. Standard, 3¼ to 1. Speed of car, 50 miles an hour, down to 2, (you won't believe it till we show you) on high.

DRIVE. Direct through universal jointed propeller shaft to bevel gear on differential. Two universal joints. Pressed steel torque shaft. Gears extra large, accurately cut and made from special alloy steel.

DIFFERENTIAL. Bevel gear type—four pinions—another feature heretofore considered too expensive for any but high priced cars.

REAR AXLE. E-M-F. exclusive design. Right and left housing sections drawn from sheet steel and heat treated, giving extra strength. Fitted with truss rods. Hyatt Roller Bearings in hardened and ground removable sleeves carry load. Differential thrust bearings, babbit between ground steel washers. No balls to split—no adjustment to get out of order. Made right to stay right. Thrust of drive pinion supported by Timken Roller Bearing.

Auto-genous welding—acetylene-oxygen process—discussed so much in engineering circles and trade journals of late is used in this axle as well as in several other parts of the car.

Thanks to drawn steel, auto-genous welding and "clean" design this axle is lighter than any other live or floating axle on cars of similar weight and power—notwithstanding the entire transmission mechanism is incorporated in it.

All gears—transmission and differential—as well as all shifting mechanism, are immersed in an oil bath. And the transmission-axle case as well as motor crank-case are absolutely oil tight—no mucking of floor boards or dripping on pavements. Provision is made to prevent the oil working out at the axle ends when the car is left standing on an incline. Liberal road clearance.

FRONT AXLE. I-beam type. Drop forged in one piece—not welded in centre. Heat treated. Spring perches forged integral. Liberal safety factor. Spindles off-set back of yoke-posts—scientifically correct—affords easy steering, with tendency to go in straight line. Steering knuckles and all connections drop forged from steel—no castings. Two-point ball bearings in hubs and all joints bronze bushed.

STEERING GEAR. Irreversible, worm and sector made from special steel case hardened. All bearing surfaces ground. Connection from steering arm, at right, to left knuckle arm, obviates all tendency to "crankiness" on rough roads.

CONTROL. Gear-shift lever at right of driver. Throttle and spark levers on left side of steering post, below wheel—operated by fingers of left hand without releasing grasp on wheel. Right hand free for emergency brake and gear shifting—the ideal control, rapidly superseding the fad for levers on top of wheel. Auxiliary foot accelerator. Clutch operated by left foot, service brake by right foot. Emergency brake by hand lever on right—ratchet lock.

WHEELS. Artillery type. Large spokes—12. Spokes and felloes first grade second growth hickory.

TIRES. 32" x 3½" on all wheels. Morgan & Wright. Universal quick-detachable rims.

BRAKES. Four—all acting on rear hubs—none on transmission. Service brake, contracting steel bands, camel-hair lined, acting on pressed steel drums integral with rear hubs. Emergency brakes, internal expanding rings in same drum—metal-to-metal. Both sets double acting. Grip on drum is intensified by motion of car after brakes have been applied. Service brakes being on outside renders adjustment easy. Pressed steel disc closes drum making it dust proof.

SPRINGS. Front, semi-elliptic. Rear, full elliptic. Extra wide for this weight of car—2". Driving thrusts and braking strains taken by two radius rods—not by springs.

FRAME. Pressed-steel—U-section. Side-members straight—weakened neither by off-setting nor dropping.

MUFFLER. E-M-F. design. Silences by radiation—not by obstruction. Absolutely no back-pressure.

FENDERS. Enameled steel in the newest style, most approved enclosed-full-length-of-the-car type.

MATERIALS. Cylinders made from special formula highest grade, fine grain, gray iron. Intake pipe, brass. Exhaust pipe, gray iron. Crank case, aluminum. Frame, gears, springs, axles and driving shafts all made from special steels—each from an alloy best suited to its peculiar service, and all from E-M-F. formula. Operating levers, spring supports, spring clips, shackles, brackets rod-ends, etc., steel, heat treated. All smaller parts, not drop forged, are pressed or stamped steel—*no malleable castings* enter into the construction of the car—maximum strength with minimum weight, and *absolute assurance* of the safety factor desired.

BODY TYPES.

TOURING CAR. 5 passenger, roomy tonneau with liberal leg-room. Latest style, most approved, straight-line type. Handsomely finished.

The "TOURABOUT"—an E-M-F. innovation. A classy 4-passenger car. Rear seats detachable, leaving room for trunks and baggage. A rumble seat is included in regular equipment; when attached makes a natty 3-passenger roadster.

WHEEL BASE. 106". TREAD. Standard—56½".
Special for Southern Roads 61".

WEIGHT. Touring Car slightly under 1800 pounds.

GASOLINE CAPACITY. 15 gallons. OIL, 1 gallon.

COLOR. E-M-F. Red.

PRICE. With standard equipment, pair acetylene headlights, and generator; side oil lamps, tail lamp, lamp brackets, tube horn, tire repair kit and tools—magneto included of course—$1,250 F. O. B., Detroit, Mich.

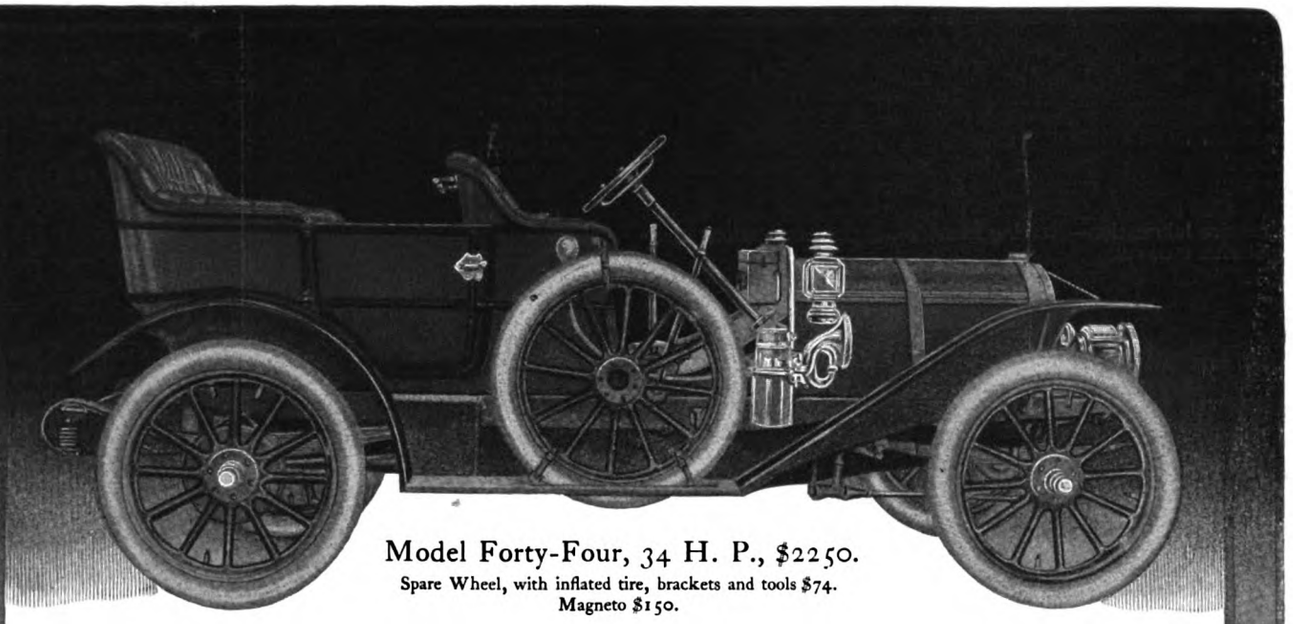
We will exhibit at the Madison Square Garden Show, January 16th to 3rd, 1909.

EVERITT-METZGER-FLANDERS COMPANY

Members Association Licensed Automobile Manufacturers.

DETROIT, MICHIGAN

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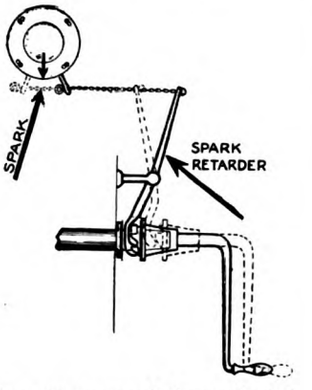


Model Forty-Four, 34 H. P., $2250.
Spare Wheel, with inflated tire, brackets and tools $74.
Magneto $150.

THE SAFETY SPARK RETARDER

There is absolutely no danger in cranking a Rambler when properly adjusted. The starting crank then cannot engage until the spark has been automatically retarded.

Every one who has had the unpleasant experience of a premature spark in starting an automobile will appreciate the Rambler safety starting device. This prevents an explosion ahead of center, even though the operator forgets to retard the spark.



You cannot engage the lug on the shaft with a tooth on the starting crank until the spark-retarder lever has moved from the position of the dotted line to the position shown, thus retarding the spark.

Rambler

The Car with the Offset Crank Shaft

Seven passenger model, forty-five horse power with offset crank shaft, $2500. Other models, $1150 to $2500. Write for catalog describing in detail Rambler offset crank shaft, Spare Wheel, straight line drive and other exclusive features of the new Rambler models.

THE CAR OF STEADY SERVICE

Thomas B. Jeffery & Company, Main Office and Factory, Kenosha, Wis.

Branches and Distributing Agencies:

Chicago, Milwaukee, Boston, New York, San Francisco. Representatives in all leading cities.

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THE MOTOR WORLD

Volume XIX. New York, U. S. A., Thursday, December 31, 1908. No. 14

METZ ACQUIRES WALTHAM PLANT

Former President of the Company Springs a Surprise—Will Produce Runabouts and Light Commercial Cars.

Interests represented by C. H. Metz have purchased the plant of the Waltham Manufacturing Company, of Waltham, Mass., of which concern he was the president at a period when it was making bicycles and when it first undertook the building of automobiles. When he severed his connection with it, he engaged in the manufacture of motorcycles, an enterprise which was subsequently merged with the American Motor Co., of Brockton. He recently withdrew from the latter company, but his acquiring the Waltham plant at this time comes in the nature of a surprise.

As one of the pioneer concerns in the business, the Waltham company enjoyed considerable early prominence and was among the first members of the Association of Licensed Automobile Manufacturers. Latterly, however, although its various "Waltham-Orient" productions have exhibited no small variety and ingenuity from year to year, the company's receipts have not borne a satisfactory relation to its outlay, in consequence of which its success has languished. So far as the future plans for the factory have been divulged, it will in all probability be devoted to the production of runabouts and light commercial cars.

Ludlum Becomes Autocar Head.

David S. Ludlum has become the head of the Autocar Co., of Ardmore, Pa., assuming the position of president and general manager. Because of his enthusiasm as to the future of comercial vehicles, a side of the industry to which the Autocar Co. has given the major part of its attention for the last two years, Ludlum resigned as assistant cashier of the Philadelphia National Bank to take the direction of Autocar affairs. John S. and Louis S. Clarke, the founders of the concern, will retain their positions as vice-president and consulting engineer, respectively, and will continue their present active connection with it. A special commercial chassis which the company has developed will be utilized in delivery wagons, town cars and taximeter cabs.

Greuter Organizing a New Company.

Having produced a six cylinder car embodying a number of original features, C. R. Greuter, formerly with the Matheson Motor Car Company, of Wilkes-Barre, Pa., has organized the nucleus of a manufacturing company which is to be launched at an early date. The enterprise has its present headquarters at Saugus, Mass., where the car is being built. A number of well known Massachusetts capitalists are interested in the project. Greuter's production is rated at 50 horsepower. It has chain drive and features in the motor a new form of double valve for which much is claimed.

McLachlan Resumes His Cleveland Post.

Archie McLachlan has returned to his former post at Cleveland, O., as salesmanager for Royal cars. For the past six months he has had charge of the Chicago branch of the Royal Motor Car Co., of Cleveland, which was recently reorganized as the Royal Tourist Car Co. His successor at Chicago has not yet been appointed.

Herz Moves to Bigger Factory.

Herz & Co., makers of ignition and other automobile specialties, have removed their office and factory to the Puck building, 303-9 Lafayette street, New York City. The ground floor has been fitted up to suit their requirements, providing more than twice the former factory space.

Splitdorf Establishes Boston Branch.

A selling branch for the Splitdorf Laboratory, of New York City, has been established in Boston. It is located in the Motor Mart and is in charge of James Rohde.

MAY REPRODUCE THEIR CARS HERE

Foreign Makers Prospecting for American Factory Sites—Preparing for Failure of Plea for Lower Tariff.

Failing to secure a reduction in the tariff, a failure for which they are not unprepared, several of the most prominent foreign makers will establish branch factories in the United States, according to information from sources directly in touch with the foreign car situation. Reports were current this week to the effect that arrangements are being made to manufacture Fiat cars in Detroit, Mich., already famous for the number of its automobile plants. Investigation by the Motor World discloses that while no definite plans have been decided upon for the location of a Fiat factory in Detroit, considerable work has already been done by the Fiat people in obtaining information and propositions from various towns and cities as to what inducements would be offered in case it were desired to establish an American factory for the production of authorized duplicates of the Italian models. Furthermore, it transpires that not only the Fiat, but the Panhard, Isotta, Renault and other foreign interests are taking much the same steps looking to the establishment of American factories in case the efforts for a reduction in the motor car tariff fail.

Until the tariff matter is practically disposed of by Congress the foreign interests propose to take no steps other than to acquire data as to what localities will offer the greatest manufacturing advantages or financial assistance. It is an open secret, however, that many of those interested in the foreign cars entertain little or no hope that the tariff will be changed for their benefit, and are actively developing their plans for American factories to a point where prompt measures can be taken immediately the tariff question is out of the way.

As the representatives of the foreign cars

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see the situation, the present rate of tariff makes it more difficult each year to compete against the American made cars. Nevertheless the American market is such that the foreign makers by no means wish to relinquish it, particularly as much money and effort has been spent in the past in giving an advertising fame to the better known productions from across the water. A large cash value is supposed to attach to the names of the well known foreign cars, and if the products cannot be successfully imported in the face of the tariff duties, then the plan will be to make the cars over here with such prestige in name and design as the foreign factories can lend.

In explaining the line of campaign which several of the foreign makers have decided upon, a representative closely in touch with several of them pointed out that at present many of the foreign factories are largely equipped with American machine tools. If the project for American factories goes through, at least one or two of the foreign makers will greatly reduce their home factory equipment and production and will ship a part of their American machinery to the new factories in the United States. Such machinery would come in free of duty.

It is claimed that the question of American wage rates and manufacturing costs has been thoroughly gone into by the foreign makers and those conducting the investigation for them on this side. With tariff arguments in mind, some of them have even gone so far as to prepare statistics on the subject calculated to show that the difference in wages paid in America and abroad makes a cost difference of about 17½ per cent., though the methods of arriving at this figure are by no means convincing. Arrangements for obtaining special metals and parts at advantageous figures are also said to have been made.

The various failures and cases of indifferent success attending past efforts to transplant foreign cars serve to encourage the view that further projects of this kind are not likely to meet with any very happy result unless conducted with rare skill and sagacity. In meeting the established American manufacturers on their own ground the foreign makers would find themselves stripped of all advantages in cheap labor and the like, and would even lose whatever selling value attaches to the "imported" label. While established trade names, such as many of the foreign cars enjoy, are to be considered in the light of commercial assets, yet it is doubtful whether they form an adequate basis for an attempted "foreign invasion."

Wallace Goes to the Colburn.

Kyle Wallace, formerly with the Maxwell-Briscoe Motor Company, Tarrytown, N. Y., has been made superintendent of the Colburn Automobile Company, of Denver, Colo. His immediate work will be the production of the 1909 model which the company will make and market.

FLUCTUATIONS IN RUBBER PRICES

Sudden and Frequent Rise and Fall and Its Probable Cause—Brazilian Aspect of the Situation.

Para rubber suitable for the manufacture of automobile tires has been playing active capers up and down the ladder of prices during the last few months, reaching heights that threatened even to affect retail prices considerably and then dropping back with unexpected suddenness. After a recent downward movement of welcome proportions it is again climbing toward upper rounds, and at no time of late has it approached the modest price levels of a year ago. These high prices, however, accumulate on the material during its transportation from the producing grounds in Brazil to New York, acording to a consular report from Rio de Janeiro which indicates that the producers are only getting very low prices and that the buyers are in combination to keep the figures at a minimum. So great has been the depression of prices at the producing grounds that rubber production is threatened, and a part of the district now devoted to it may be turned to other agricultural lines which will prove more profitable. The corresponding reduction in output would greatly affect the market.

"The industrial, commercial and financial situation in Northern Brazil, due to the present and prospective low price of rubber," says Consul General George E. Anderson, of Rio de Janeiro, "continues to merit the careful consideration of the commercial world generally.

"The unfavorable condition, economically, of so great a portion of Brazil is ascribed by some of the rubber men to the lack of proper banking and credit facilities for the financing of the rubber crop, so that producers, or rather the middlemen standing in the position of producers, may be able to hold the crop until the markets of the world are willing to pay higher prices for the product. An organization of rubber dealers is favored for the purpose of resisting combinations of buyers which it is said exist for the purpose of keeping prices low.

"What the present situation means to the great rubber country of Brazil in a governmental way is indicated in the annual message of the Governor of Para, which shows that there was a shrinkage in the revenue of the State, nearly all of which comes from a tax of about 25 per cent. effective on the value of rubber exported, of $458,404 between the last quarter of 1907 and the same quarter of 1908, and there was a shrinkage of $528,540 between the first quarter of 1908 and the same period in 1907. In the fiscal year of 1905-6 the revenue of the State was placed at $4,619,828, while for the coming year it is placed at $2,132,100. The States of Amazonas, Matto Grosso, Goyaz and other rubber producing commonwealths suffer in a similar way.

"The situation is important in a general commercial way," he continues, "not only as explaining present conditions and prospects in the way of imports into Brazil, but also from the fact that unless there is an immediate and radical change in rubber prices, a change which appears to be very improbable in view of the immense extension of rubber plantations over the world generally, there must be a complete revolution in the industrial, commercial and agricultural life of about half of the territory of Brazil."

German-American Agreement on Patents.

Possibly through another of the Kaiser's "calculated indiscretions," it has leaked out that a treaty between Germany and the United States is in process of negotiation looking to a satisfactory reciprocal patent agreement by which the inventors of the two countries will be relieved of some of the more onerous restrictions and requirements that the natives of each encounter in dealing with the other's patent office. The most apparent benefits of the arrangement that is proposed would accrue to the American inventors in the improvement of conditions governing the maintenance of patents in Germany. In the past it has been necessary to actually manufacture in Germany or to pay fees for a recognized bribing of the necessary officials to get a certification that they were satisfied that the patentee was working the invention in the Fatherland. The new regulations would abolish such requirements and would be more liberal in other respects. The German inventors have little to complain of as to the United States patent office. The favorable disposition of Germany as to making the concessions asked for is suggested as being actuated by a desire to appear in direct contrast to England, which has antagonized the rest of the world by its recent patent enactment requiring that manufacture must take place in Great Britain to keep a patent valid.

Dow Tire Elects Coats President.

Changes in the Dow Tire Company, of New York City, have resulted in the retirement of Alexander Dow as president and H. D. Gue as vice-president. The election of officers resulted in the choosing of Alfred M. Coats as president and Gen. James B. Burbank as vice-president, while A. V. R. Barnewall and Sydney Perry succeed themselves as treasurer and secretary, respectively. Barnewall is also general manager of the concern.

End of Pope Motor Car Receivership.

By a final and complete settlement with its creditors, the Pope Motor Car Co., of Toledo, O., will in a few days effect a discharge from the hands of the receivers. The concluding Steps in the program only await the necessary formal court approval.

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HART WANTS THE CORBIN MOTOR

Negotiations Opened for Purchase of the Business—Two Offers Made but the Outcome Yet Uncertain.

Negotiations looking to the purchase of the Corbin Motor Vehicle Corporation, of New Britain, Conn., by its former president, Howard S. Hart, have been in progress for some weeks. Hart resigned from the presidency of the company about a month ago, being succeeded by President Charles Glover of the Corbin Screw Corporation. It is not long since he also resigned the presidency of the Russell & Erwin Co., of New Britain, so that he feels himself in a position to concentrate his energies on the automobile business should he succeed in acquiring the Corbin business.

It is understood that he has made two propositions to the American Hardware Corporation, which owns the Corbin Motor Vehicle Corporation, but neither of these have as yet met with acceptance. A committee has been appointed by the directors of the American Hardware Corporation to consider what shall be done as to the future of the automobile company. The chairman is Charles H. Parsons. No formal report has been prepared by the committee as yet, according to Parsons, and President Glover is proceeding to push the Corbin automobile affairs with a vigor untouched by possibilities of the business being sold.

Alleged Infringement in Spark Plugs.

Infringement suits have been brought against Ralph Burton, of Peru, Ind., by the Rajah Automobile Supply and C. E. Mezger, Inc., of New York City, alleging violation of the plaintiffs' patent rights, respectively, relating to the manufacture of spark plugs for automobile motors and gasolene engines. The suits were filed in the United States Circuit Court, at Indianapolis, on the 14th inst. Burton is thought to have manufactured certain styles of spark plug porcelains of particular design and imprint, with more diligence than discretion.

Preparing for Big Output of Wheels.

The Pontiac Wheel Co., of Pontiac, Mich., is now manufacturing automobile wheels. An addition is being made to the plant which will double the output, and the concern estimates that it will make 15,000 sets of automobile wheels during the coming year.

New Pope Company Retires Series of Notes

In such easy circumstances has the new Pope Manufacturing Company, of Hartford, Conn., started its career that after having taken over the property and assets of the old company from the receivers, it has anticipated one of the three groups of mortgage notes provided for under the reorganization plan by paying off the 1911 series, amounting to $267,000, two years and seven months before maturity. To insure sufficient ready cash upon which to conduct business, the reorganization program included the issuance of $800,000 in mortgage notes, divided into three series, maturing respectively in 1909, 1910 and 1911. The directors of the new company, upon a consideration of its bank balance, decided that there was ample to take up at least one of the series at the very start, the long term series being selected because of the greater saving in interest. This series has therefore been withdrawn from the underwriters, and instead of being offered to the financial public will be filed among the company's cancelled liabilities.

Automobile Coaching Company in Trouble.

Bankruptcy proceedings have been brought against the Automobile Coaching Co., 147 Spring street, New York City, by Louis Ginsberg as administrator of the estate of David Ginsberg. The claim is for $2,361 on a judgment obtained last May for the death of David Ginsberg. It is alleged that the company made an assignment on December 1 and transferred $3,000 assets. The liabilities of the concern are given as $13,531, nominal assets $80, and actual assets $24.

Pittsburg to Have a Taxicab Company.

Despite its numerous hills and its congested streets, Pittsburg is to be a taximeter cab city. The Pittsburg Taxicab Co. is to make application to the governor of Pennsylvania on January 12, for a charter. The men who are back of the enterprise include J. L. Shearer, Jr., John W. Weibley and Charles B. Prichard. They are represented by the legal firm of Weil & Thorp.

Miami Wins Suit Against Pope.

As the result of holding $1,000 deposited with it by the Miami Motor Car Co., of Dayton, O., suit was brought against the Pope Motor Car Co. recently by the Miami company. The defendant demanded the money for damages when the plaintiff discontinued the sale of its cars. A jury hearing has resulted in a verdict for the Miami company of $765.10.

Poole Returns and Will Rest.

John L. Poole, one of the widely known men in the trade, who has been abroad for some time representing a line of American cars, has returned. He will terminate his present arrangement on January 10, after which he intends to take a much needed rest before resuming active duties.

To Build Automobile Hearses.

Motor propelled hearses are to become one of the regular lines of manufacture of James Cunningham & Sons Co., of Rochester, N. Y. The concern has made horse drawn hearses for many years.

EXTENDING THE "DRAWBACK" LIST

All Members of the A. L. A. M. to Participate in the Privilege—Two Important Treasury Department Decisions.

In exporting automobiles the manufacturers are entitled to "drawbacks" or returns of the duty collected on such imported parts and materials as are incorporated in the machine and on which duty was paid at the time of their original importation, and in this they are receiving the active cooperation and help of the Treasury Department. Two decisions have just been given by the Department extending the list of those who are to be recognized as enjoying the drawback privilege.

Of these the more important insures the benefits of the drawback arrangement to all members of the Association of Licensed Automobile Manufacturers. The drawback, however, is limited to parts and material actually used in the construction of the cars themselves, and does not extend to external accessories or attachments. The instructions to the customs officers from the Treasury Department extend the regulations providing for the allowance of drawbacks so that they will "cover the exportation of automobiles manufactured by the members of the Association of Licensed Automobile Manufacturers with the use of imported parts. No drawback is to be allowed on horns, lamps, odometers and other attachments which may be readily detached from the automobile, and which do not form a permanent part thereof."

Denver Develops a New Wheel.

Embodying a pneumatic hub suspension with a solid rubber tire in contact with the ground, a new automobile wheel has been developed in Denver, Colo., for which the originators are confident there will be a big market. Sheriff Alexander Nisbet, T. W. Baird and Edward Dettlebach are backing the enterprise, Dettlebach being the inventor. Nisbet starts East very shortly to demonstrate the wheel and arrange for its manufacture in large quantities.

Overland Agency in the Metropolis.

Overland and Marion cars will hereafter be handled in New York City from a new location. The Metropolitan sale of the two lines has been placed with the Marion-Overland Automobile Company, which concern has its headquarters lower downtown than formerly, at 1657 Broadway.

Pope Company Retires Series of Notes.

C. H. Martin recently returned from Porto Rico where he established an automobile transportation line, has joined the forces of the White Company, in New York. He will have charge of the used vehicle department.

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In the Retail World.

The Woodward Carriage Co., of San Antonio, Tex., has taken up the automobile business. The concern will handle the Rambler.

J. W. Davis, of Prophetstown, Ill., is establishing an automobile salesroom. He has leased the Trautwine building for the purpose.

D. A. Kelly, a blacksmith, is building an automobile garage and repair shop in Monticello, Ill. He will cater to the town's 20 machines.

The Allen-Swan Motor Co., of Brooklyn, N. Y., has changed its place of business. The company has taken a location at 1384-6 Bedford avenue.

The Auto Motor Co., of Boston, Mass., has taken a salesroom at 11 and 12 Park square. George H. Lowe will be with the company and expects to handle the Gyroscope.

The Sweeney Auto Livery Co., of Cleveland, O., has filed a deed of assignment in the insolvency court. Peter D. Quigley is named as assignee. The assets are placed at $1,500 and the liabilities at $3,500.

The Stanley Steamer Co., of Chicago, Ill., has accepted plans for a building which is to be erected for it at the southeast corner of Indiana avenue and Twenty-first street. The structure will be two stories high, costing $18,000.

J. W. Leavitt & Co., of San Francisco, Cal., have arranged for new quarters. They have leased a two story brick building at the southwest corner of Golden Gate avenue and Hyde street, which they will occupy at an early date.

The Star Automobile Co., of Wichita, Kan., has been organized, to handle the Overland. Temporary quarters have been obtained at 137 Market street, but the company has accepted plans for a $16,000 stone garage of its own which is to be built the coming year.

Suit against the Sid Black Automobile Co., of Cincinnati, O., and against Sidney Black and C. J. Neare, has been brought by the owners of the property occupied by the company. A lien is claimed upon $1,225 due for rent since last July. A receiver is also asked for.

The Bennett Auto Co. and the Bennett Auto Supply Co. have opened for business in Sioux City, Ia., at 313-315 Nebraska street. Both companies are owned by the same people, but the former will do a retail agency business in cars, while the latter will undertake a jobbing business in parts and supplies.

The Warner Motor Co., of Washington, D. C., has built a spacious new brick garage at 1204-1212 New Hampshire avenue, N. W., facing M street. The building has a frontage of 60 feet and is two stories high. Each floor yields 10,000 square feet and the second story contains a completely equipped machine and repair shop.

The new brick garage of the Tennessee Auto Co., 1308-12 Broadway, Nashville, Tenn., was formally opened on the 16th inst. The structure contains 15,000 square feet of floor space, has glazed front and rear and glass-sided roof. The Tennessee Auto Co. are agents for the E-M-F. cars.

The Marion-Overland Automobile Co., of New York City, by petition to the Supreme Court of New York, and an order therefrom, will legally change its name to the Overland Company of New York on January 7. There will be no change in the stockholders or officials of the corporation.

H. K. Sheridan, noted as a driver of White cars on various important reliability and endurance contests for a number of years, has been appointed superintendent fo the garage and repair shop of the New York City branch of the White Co.. Heretofore he has been located at the Cleveland factory.

Eleazer J. Goodby and Charles Marshall, employes of the Corbin Motor Vehicle Corporation, have formed a partnership to start in the automobile business in New Britain, Conn. They will do special body building and general repair work and have secured a shop in a brick building on West Main street.

The Hearsey-Willis Co., West Market street, Indianapolis, Ind., is closing out its carriage business and in future will devote itself exclusively to the automobile and bicycle trades. Three floors will be given over to the new lines among which is the recently added agency for the Waverley electrics.

The Goodyear Tire & Rubber Co.'s branch in Boston has had to move, its old building being torn down to make room for a new, five-story structure which will later be its home. Temporary accommodations have been taken at 669 Boylston street, until the permanent quarters at 261 Dartmouth street are ready next May.

The Week's Incorporations.

Massillon, O.—Jewel Motor Car Co., under Ohio laws, with $250,000 capital.

Lenox, Ia.—S. W. Wainwright Automobile and Supply Co., under Iowa laws. Capital, $10,000.

Chicago, Ill.—James Motor Express Co., under Illinois laws. Increase of capital from $16,000 to $34,000.

South Berwick, Me.—Taxi Associates, under Maine laws, with $200,000 capital. Corporators—E. Burleigh Davidson et al.

Chicago, Ill.—Stanley Motor Carriage Co., under Massachusetts laws, with $9,500 capital. Corporators—F. Jay, Chicago, et al.

Cincinnati, O.—Merchants Automobile Company, under Ohio laws, with $10,000 capital. Corporators—Edward Stang et al.

Belleville, Ill.—Model Automobile & Garage Co., under Illinois laws, with $2,000 capital. Corporators—I. H. Wangelin, Joseph Schwarz and E. L. Schwarz.

Oklahoma City, Okla.—Overland Automobile Sales Co., under Oklahoma laws, with $10,000 capital. Corporators—Will G. Brown, T. B. Funk and Alta E. Funk.

Memphis, Tenn.—Memphis Tax-Cab Co., under Tennessee laws, with $25,000 capital. Corporators—Frank Farrell, R. H. Allen, W. D. Watson, N. J. Sawrie and S. C. Childress.

St. Paul, Minn.—Pence Automobile Co., under Minnesota laws, increase of capital from $25,000 to $250,000. Officers—Henry E. Pence, president; Fred C. Malcolmson, secretary.

Brownsville, Tex.—Brownsville Motor Car and Machinery Co., under Texas laws, with $5,000 capital. Corporators—W. H. Mason, Jr., A. G. Mason, L. H. Mallam and C. Everson.

Berea, O.—Empire Auto Specialty Manufacturing Co., under Ohio laws, with $10,000 capital. Corporators—Hitt C. Gunther, E. C. Rush, L. C. Loomis, F. R. Pfeiffer and W. K. Caldwell.

Fond du Lac, Wis.—Worthing-Clark Auto Co., under Wisconsin laws, with $20,000 capital. Corporators—G. W. Worthing, E. W. Clark, J. W. Immel, A. Hoenigstin and George H. Stanchfield.

Oklahoma City, Okla.—Corey Motor Car Co., The, under Oklahoma laws, with $25,000 capital. Corporators—G. P. Corey, V. E. Crouch, W. P. Peck, Oklahoma City; C. D. Crouch, Bravo, Mich.

New York City, N. Y.—P. & H. Taxi Co., under New York laws, with $5,000 capital. Corporators—Elek J. Ludvigh, 299 Broadway; Arthur Present, 596 Broadway; Edwin C. Hyman, 820 Broadway.

New York City—Moto Bloc Import Co., under New York laws, with $5,000 capital; to deal in and rent automobiles. Corporators—H. M. Browne, F. W. Mills, E. J. Forhan, 154 Nassau street, New York.

Cambridge, Mass.—Auto Wind Shield Co., under Massachusetts laws, with $2,000 capital. Corporators—Frank Thorsen, Cambridge, president; Herbert H. White, Brookline, treasurer; and Thomas S. Longridge.

Newark, N. J.—Manhattan & Essex Auto Express Co., under New Jersey laws, with $100,000 capital. Corporators—O. W. Jackson, G. J. Motzenbecker, G. M. Hammell, Newark; V. S. Richardson, East Orange.

Asbury Park, N. J.—Royal Gray Motor Car Co., under New Jersey laws, with $50,000 capital; to carry passengers and goods for hire. Corporators—L. F. Groce, M. F. Groce, Asbury Park; W. H. Skinner, Lakewood.

Jersey City, N. J.—Cable Pneumatic Tire Co., under New Jersey laws, with $500,000 capital; to manufacture tires and accessories. Corporators—John F. Scannel, 729 Sixth avenue, New York; Frank A. Magowan, 241 Broadway, New York; Grant Lambright, Newark, N. J.

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FEELING THE PULSE OF THE TRADE

Are the Retail Dealers Making Any Money? —What the Jobbers Say in Reply to the Question.

Taking a survey of the country, from coast to coast, are the automobile dealers, garage proprietors and the sellers of accessories at retail making money? The query has been put quite frequently by tradesmen whose plans more or less depend upon the stability of these elements of the business. No one is in a better position to know than are the jobbers who sell them goods and are in constant contact with them. As the "bankers of the supply trade", the jobbers are very much concerned for the welfare of the dealers, since the jobbing business reflects the conditions of the retail business with exactitude.

What the jobbers say about whether the dealers are prospering or not is authoritative. Conditions differ in various parts of the country, as may be gleaned by the following expressions of opinion by prominent jobbers which the Motor World has elicited in taking a census of their views on the subject.

New York City—"Business in general is in better condition to-day than ever it has been. The car dealer and garage man who is paying strict attention to business has made money this year, and always will make it. Collections are all that could be desired."

Los Angeles, Cal.—"Dealers in Southern California have passed through a fairly successful season. We believe that as a rule they have made some headway. They have undoubtedly done better than they anticipated owing to the crisis through which the country passed in the early part of the year, their sales being much larger than had been expected. Collections have not been easy to make and the jobber has worked under great hardships in carrying from month to month many of the dealers who were unable to meet their obligations."

Philadelphia, Pa.—"Business has been considerably better than we had reason to expect at the beginning of the year. Our business has almost reached the same proportion as last year, which was the largest in our experience. The outlook for the future seems very good at the present time, but collections are hard to make."

Denver, Colo.—"Business in this territory has been rather quiet for the last three months. Collections are fairly good, but considerable care has to be taken with credits, especially at this season of the year. Weather conditions have been somewhat against good business in the automobile line."

Hartford, Conn.—"Conditions among the trade in this territory are prosperous. Our losses on bad accounts have never been less than they have been this season, and everything looks most excellent for a good season for 1909."

Louisville, Ky.—"As far as Kentucky is concerned, notwithstanding the financial condition, the automobile business has been better in 1908 than in any previous year, and from present indications, 1909 business will exceed all former years. Believe most dealers can show a balance on the right side of the ledger."

Portland, Ore.—"Our total business for the year 1908 was about 15 per cent. greater than for 1907. This we believe can be reported of very few lines of business. Collections, however, have not been so good as last year, it being very difficult to collect from a great many of the garages in this section. We think this is due, however, to the fact that they have gone into the business with insufficient capital. The prospects for next year are very bright, and we anticipate an increase of our business to a considerable extent, though from the present outlook it is doubtful whether we will increase our net profits, owing to the fact that too many dealers are being quoted jobbers' prices by manufacturers."

Boston, Mass.—"Volume of business done by the automobile trade in New England the past season has been greater than we a year ago expected it would be. While we question whether the dealers have made a great deal of money, still we think those representing standard vehicles have done fairly well, particularly in the lower and medium grades. We are inclined to think that those representing the highest grades have not made a whole lot of money. The general business in automobiles and automobile supplies is in much better shape at this time, however, than we were warranted a year ago in expecting. The principal trouble has been in the slowness of collections and the difficulty of making them."

St. Louis, Mo.—"We have every reason to believe that the dealers in this vicinity have a largely increased business over previous years, notwithstanding the late financial distress. In fact, our jobbing business alone shows a 50 per cent. increase over the same period last year—far more than we hoped for. Naturally we look for a very heavy business in the spring of 1909 which will be continuous through the season."

Rochester, N. Y.—"Altogether we believe we have experienced better business than we anticipated during such a business crisis as we have passed through. This crisis, however, has not improved the credit of the dealers, according to our experience. We find that collections are harder to make. We do not think the dealers have made much money."

New Orleans, La.—"Of course the fall of 1907 and the spring and summer of 1908 were nothing to be compared with what we reasonably should have expected under normal conditions. Still we feel that the business done during that period, taking into consideration the financial conditions which existed at this time, was as much as could be expected. The dealers in this territory seem to be doing nicely and holding their own. There are of course exceptions to the rule. It is our opinion that the automobile business is in better condition to-day as a whole than it has ever been since its incipiency. The dealers who are now engaged in the business are, as a rule, more experienced, have more capital and are working along more conservative lines than they ever have before. The next few years are sure to weed out the weaker dealers and manufacturers, and those who remain will naturally grow and prosper in exact ratio to the amount of energy, brains and straightforwardness with which they approach the various problems which will arise from time to time."

Minneapolis, Minn.—"The established dealers are making money and their credits average better. There is always a class of dealers and repair men who spring up and do business for a short time whose responsibility is doubtful. There are as many of this class this season as there have been heretofore."

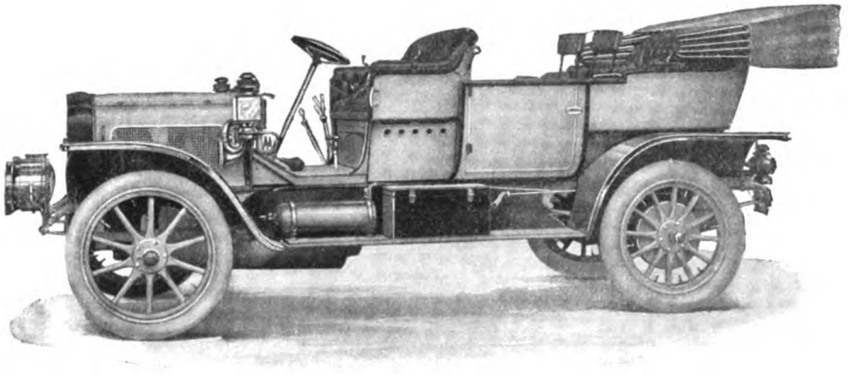
Chicago, Ill.—"The past year has been considerably better than the year previous and conditions look very bright for a very large business the coming year. The dealers in this vicinity generally have made money, but some of the smaller ones have found it unprofitable."

Indianapolis, Ind.—"The trade outlook is, indeed, a satisfactory one. Trade conditions have greatly improved over the past year, especially in the central territory and the dealers throughout the country are studying the automobile situation from a more business-like basis, and are realizing the requirements for a first-class garage and automobile agency. Capital is interesting itself more conservatively in the sale of cars and 1909 will undoubtedly be a successful year from the dealers' standpoint as well as the manufacturers' standpoint."

New York City—"A little over a year ago when the panic struck us a few automobile manufacturers fell by the wayside and everyone predicted that the whole industry would have hard sledding in 1908. The wise ones said that automobiles, being luxuries, could and would be done without; but, strange to say, the opposite has happened. Good cars sold well, and I am satisfied that most supply dealers increased their trade too. Our business in this department has shown a large increase in volume, and the profits have been satisfactory as a whole. I think that the experienced dealers have made money this year, but so many 'fly-by-nights' have been attracted to this trade by visions of big profits that credits have not been good. While the business is very much alive, I don't look for a runaway market in 1909. I mean by that that the sale of automobiles and automobile accessories should increase and probably will, but the supply will equal the demand and caution should be used."

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THE
MODEL "M" WHITE STEAMER
Is The Most Luxurious Car On The Market



The luxury of the White Steamer is unequalled by any other machine. There is no car, however expensive, which has better upholstery, better springs or better finish. Owing to the compactness of the mechanism, the body is much more commodious than in any car of similar wheelbase, (122 inches). Few other makes have such a liberal tire equipment (36x4 on the front wheels and 36x5 on the rear wheels.)

The luxury of any car, however, depends largely upon its riding qualities and here the White is "in a class by itself." It is the only car where starting and changes of speed can be effected without jerks or jolts. It is the only car which runs noiselessly under all conditions. It is the only car which is free from vibration, because it is the only car where the power is applied evenly and continuously, and not spasmodically.

Just as our Model "M," priced at $4,000, is the most desirable of the higher-priced cars, so our Model "O," at $2,000 predominates among moderate priced machines.

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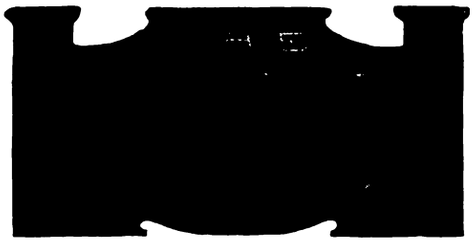
THE WHITE COMPANY
CLEVELAND, OHIO

NEW YORK CITY, Broadway at 62d St.
BOSTON, 320 Newbury St.
PHILADELPHIA, 629-33 N. Broad St.

PITTSBURG, 138-48 Beatty St.
CLEVELAND, 407 Rockwell Ave.

CHICAGO, 240 Michigan Ave.
SAN FRANCISCO, Market St. at Van Ness Ave.
ATLANTA, 120-122 Marietta St.

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NEW YORK, DECEMBER 31, 1908.

". . . . **By the way, I like the Motor World. It gives the kind of stuff the dealer wants to know, and you ought to hold your own long after the general public stops reading automobile papers."**
NEW YORK SPORTING GOODS CO.,
James E. Murray, Secretary

The Palace Show Number of the Motor World will, of course, bear the date of January 7th. The dates of the Garden Show Numbers will be January 14th and 21st, respectively.

The Outlook for the New Year.

In connection with the simple process of turning down another leaf in the history of New York's great automobile shows, this important fact should be jotted down with care. The first of the shows of 1909 and the last of 1908 also is the first to be held since the industry at large passed through the fire of a great financial upheaval and emerged practicaly unscathed.

That at the time of the last exhibition of its kind in Grand Central Palace it was freely predicted that before another year should have rolled by the industry would have suffered the severest test to which it could be put, is yet fresh in memory. How it was said that automobiles, as luxuries, would be among the first of the commodities to be slighted when conditions of money stringency began to become at all general, and how the apparent prosperity of the industry was decried as being a false index to its real condition, which was one of instability, is easily recalled. But how the industry should have passed through the ordeal without serious affliction and resumed its way with practical unconcern, still is more or less of a marvel.

With the opening of the doors of the Palace, however, a somewhat chastened if not afflicted industry will welcome the public. The lessons of the period of threatened downfall have been well learned, and it is unquestionable that more conservative methods of conduct now rule the business side of the industry than formerly were in vogue. As for the product itself, it cannot be gainsaid that the rapid rise of the medium priced car, built to cater to a real requirement among classes of buyers numerically very great, has been influenced very largely by the alarm of the panic time.

That the industry as a whole is greatly benefited, therefore, is beyond question, since it has learned not simply the advantages of cautious operation in money matters, but of developing the quantity market on a quality basis. There is less of the speculative element manifest to-day perhaps, than ever before during its short term of existence. This being so, the industry is in a fair way to continue its upbuilding for the future. Generally speaking, the twelve-month just closing proved a far better one than even the most optimistic had reason to anticipate, and the augury is particularly happy for an even more prosperous new year.

Winter Motoring and the Small Car.

In arraying small cars and large cars comparatively in the matter of sales, the latter appear at their best during the winter months, according to the dealers in the big cities. This is because commodious, high powered touring cars and limousines are enjoying a more extensive winter use each year, so that the prospective purchasers of these types are just as eager for their machines in November or January as in May. To secure satisfactory delivery in the spring, many buyers of certain favored small cars are obliged to place their orders early in the winter, having in mind the time that will elapse between the filing of the order and the appearance of the car. But the actual arrival of the warm months is what moves the great proportion of runabout and small car enthusiasts to the maximum of their buying.

The change in the users' attitude toward the big cars, by which these machines are now regarded as part of winter life in the city instead of being shut in store rooms to await a brief season of use in the summer, will, almost without doubt, be extended to the smaller cars as well. Even the owner who required the presence of spring weather to stir his blood to the point where he paid over his money for a runabout or light car will find himself reluctant to give up the use of his machine in the fall and winter, and, supported by growing custom, he will come to use it the year through.

Many devices in the way of clever windshields, heating arrangements and the like have been made available to the winter motorist, yielding a degree of protection and comfort that should easily swing the beam toward all-the-year-'round enjoyment of motor car transportation. Inventive minds have also devised methods of relieving drivers from all need of worry as to winter "skidding" dangers. It is therefore easy to see why those who have used their cars for one winter are ready to do it again the next. While it is perhaps too much to expect that first-time automobile purchasers will abandon their preference for spring delivery, yet as the people who have had cars before come into the market for their second, third or fourth cars in increasing numbers, it will be found that the sale and delivery of machines will be spread out more evenly through the different months, rather than being bunched in the early part of the year as at present. Veteran owners and, in frequent instances, novice purchasers of the big cars already recognize that the automobile is for every month, and the smaller cars will before long win the same recognition.

International Patent Law Assailed.

Whatever favorable results may come of the projected "patent treaty" with Germany so far as obtaining for American inventors a more liberal dispensation of the

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German patent office practice, it is to be hoped that on this side of the water the patent system be kept free from entanglements and agreements contrary to the spirit of absolute impartiality which is imposed upon it by the Constitution. It is somewhat old fashioned but none the less sound to refer to the Constitutional sources of governmental institutions.

Patent protection for new and useful inventions, whether conceived by foreign or native mind, is designated by the Constitution as a "right" and not a mere privilege. However expedient it might at times appear to retaliate against a foreign country's ill treatment of Americans, or to attempt a grateful reward for concessions, no discriminations can properly be exercised by the United States Patent Office in its dealings with foreign inventors no matter where they may reside or from what part of the world they make their applications. For this reason the Patent Office should be saved from diplomatic influences and bargaining.

With the advent of the taximeter appliance in motor vehicle service has come the old, familiar worry of the patron as to whether the instrument is being honestly used, or whether it may not be designed to trick him out of a few pennies now and then. The suspicion that the driver may be turning more corners to the left than to the right, or that he may spend his waiting moments in running the motor with one wheel jacked off the ground, is nothing as compared with the horrible doubt as to the integrity of the proprietor himself. But after all, it is merely the old story of the gas meter and the computing scales. After a time, the public will have become adjusted to the new condition, a few necessary laws will have been enacted, and taximeters will cease to annoy and will fit into a very unobtrusive though important nitch.

Having obtained a donation of $5,000 from the National Association of Automobile Manufacturers to relieve its immediate necessities, it is understood that the American Automobile Association is making ready to ask manufacturers generally to support an official organ, the publication of which practically has been decided on. The publisher who already seeks the favor of the trade with four or five other mediums is said to be "the man behind the scene" of the embryo official organ.

CARS AS "HOUSEHOLD EFFECTS"

Appraisers' Decision Denies Such Status to Foreign Automobiles Brought Home by Tourists—Reasons Stated.

Foreign cars brought over as "household effects" by a "person from a foreign country" are not to be admitted without paying the 45 per cent. duty imposed by the tariff when the "person" is a resident of the United States, according to a ruling just handed down by the Board of General Appraisers at New York. The law provides for an exemption from the duty on bona-fide household effects that have been used abroad for not less than a year by persons or families from other countries who come to the United States, but the Appraisers take the view that an American returning from a comparatively brief trip abroad is not a person from a foreign country in the sense contemplated.

A protest was filed against the assessment of duty on a machine belonging to Paul A. Isler, it being claimed that the car was entitled to free admission as household effects under paragraph 504 of the tariff act of 1897. In passing upon the case the Board of Appraisers gave the results of their findings as follows:

"It appears from the evidence that the protestant is a resident of the United States; that he purchased the automobile while on a visit abroad, about two years prior to its importation to this country; that it was used abroad by him during his visit about four months at that time, and on other visits prior to its importation. . . .

"Since the decision in Arthur v. Morgan (112U. S., 495) and Hillhouse v. United States (152 Fed. Rep., 163; T. D. 27831), there is not question that an automobile is a household effect within the meaning of this phrase as used in paragraph 504. We are inclined to think that the use of the automobile was practically continuous for more than a year. It can scarcely be that the requirements of this paragraph are so narrow that the household effects in question must have been in actual physical use every day or every week or every month of the year preceding importation. The question about which we think there is grave doubt is whether the protestant is, under the circumstances of the case, in a position to claim the benefit of free entry. . . .

"A citizen and resident of the United States going abroad on a few months' pleasure trip and returning is not, in our judgment, a person from a foreign country within the meaning of that phrase as used in this paragraph of the law. The benefit of this was, in our judgment, intended by Congress to accrue only to citizens of a foreign country or citizens of this country who remain in a foreign country at least long enough to acquire a temporary residence there. A citizen of the United States who is a mere traveler to and from Europe, without ever remaining there more than a few months, has not acquired such status as to be entitled to the exemption provided by paragraph 504."

COMING EVENTS

December 31-January 7, New York City—American Motor Car Manufacturers' Association's annual show in Grand Central Palace.

January 1-2—Quaker City Motor Club's two days endurance run, Philadelphia to Wilkes-Barre, Pa., and return.

January 16-23, New York City—Association of Licensed Automobile Manufacturers' annual show, Madison Square Garden.

January 21-31, Los Angeles, Cal.—Automobile Dealers Association's show.

January 25-30, Cincinnati, O.—Automobile Dealers Association's show.

January 27-February 3, Philadelphia, Pa.—Automobile Trade Association's eighth annual show, Second Regiment armory.

February 6-15. Chicago. Ill.—National Association of Automobile Manufacturers' Show, Coliseum and First Regiment Armory.

February 15, Detroit, Mich.—Detroit Automobile Dealers Association's show, Wayne Pavilion.

February 15-20, St. Louis, Mo.—Automobile Manufacturers and Dealers Association's annual show.

February 15-20, Cleveland, O.—Automobile show, Central Armory.

February 16-18, Denver, Col.—Denver Motor Club's first annual show, Auditorium.

February 20, 21, 22, New Orleans, La.—New Orleans Automobile Club's Mardi Gras carnival 3 days race meet.

February 22, Cleveland, O.—Cleveland Automobile Dealers Company's show, Central Armory.

February 27-March 3, Hartford, Conn.—Automobile Dealers' Association show.

March 1-6, Omaha, Neb.—Omaha and Council Bluffs dealers' show, Auditorium.

March 6-13, Boston, Mass.—Boston Automobile Dealers Association's (Inc.) seventh annual show, Mechanics Building.

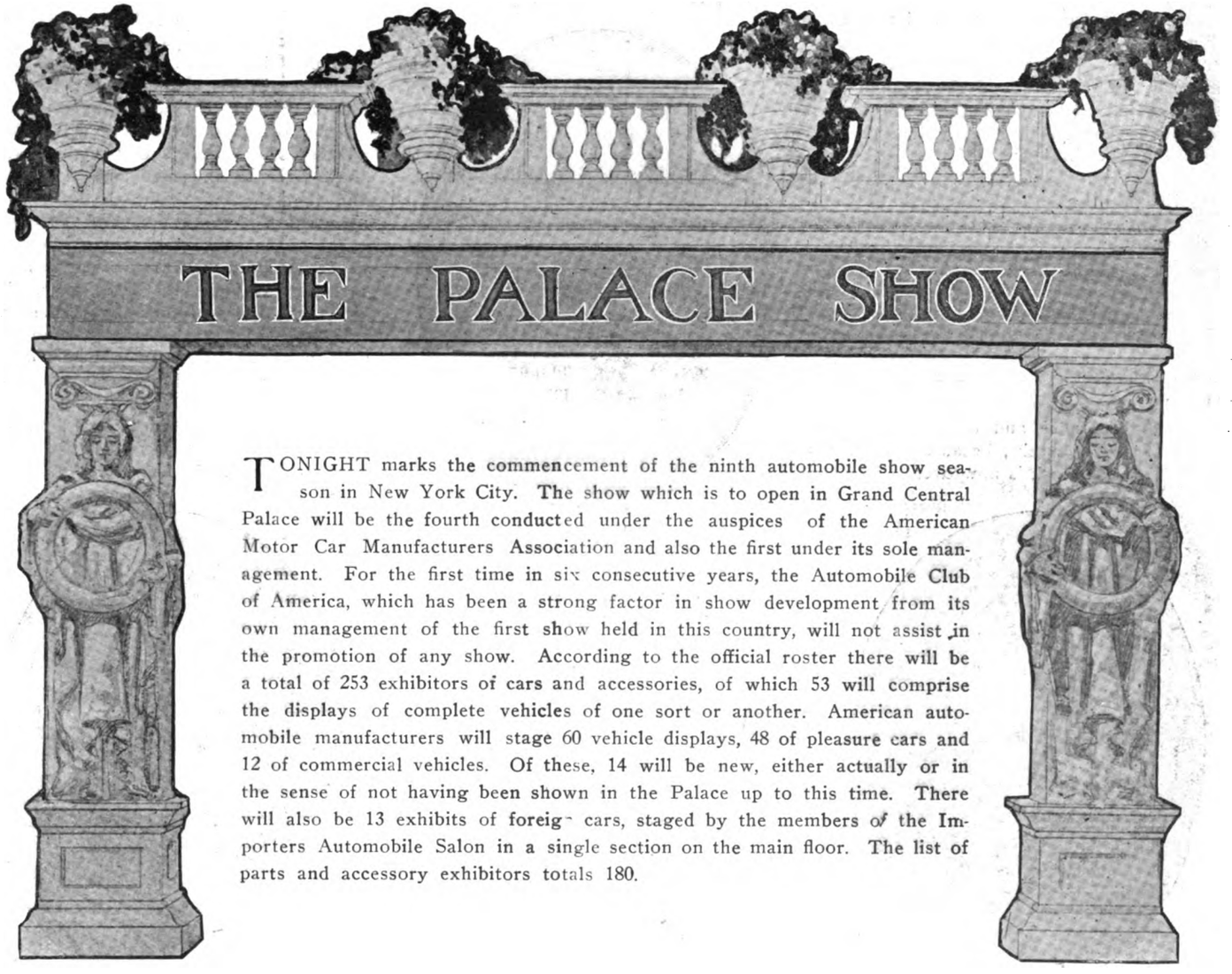
March 8-15, Kansas City, Mo.—Dealers Association's show, Convention Hall.

March 10-13, Memphis, Tenn.—Automobile show, Auditorium building.

March 15-20. Rochester, N. Y.—Rochester Automobile Dealers Association's show, Convention Hall.

March 27-April 3, Pittsburg, Pa.—Automobile Dealers Association's show, Duquesne Garden.

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With prospects bright for a prosperous season to come and a prevalent feeling of security in the sentiment that the general adoption of the medium and low priced models which now rule the market to so great an extent is destined to react favorably on the industry, conditions are particularly favorable for the success of the show which is about to open its doors. That only a portion of the industry is to have representation in the present session, another large section planning to conduct a similar enterprise within a fortnight by no means implies any lack of comprehensiveness on the part of the undertaking of the American Motor Car Manufacturers' Association which is to hold the boards in the Grand Central Palace for the next seven days. Indeed, it is a happy circumstance of the process which has brought about the segregation of the so-called "Independent" and "Licensed" forces, that their lines have been drawn without regard to type, and that each of the two great shows will be complete in itself. Even so, the first, will offer in variety of types and divergency of designs and practices an unapproachable array of vehicles calculated to satisfy the requirements of every conceivable creed or denomination of buyer.

Nine years ago the first affair of its kind was convened in Madison Square Garden under the auspices of the Automobile Club of America. That the present show is the ninth in succession also, despite the fact that no show was held during the year 1902, is due to the fact that two shows were held in 1906, marking the transition back from the late to the early fall date. Last year's October dating, and the opening of the present season nearly two months later in the year, mark a second swing of the pendulum. While the first show was held in November, and early December shows have been seen on two other occasions, this is the fifth show to fall in some part of the month of January.

A significant feature of the present exhibition is the withdrawal of the Automobile Club of America from active participation in its affairs. Until last year that body had managed or participated in the management of a show each year. The first five of its undertakings were carried out within the precincts of Madison Square Garden. The formation of the A. M. C. M A., however, enabled it to establish the first independent show when, in 1906, the Association of Licensed Automobile Manufacturers first secured the Garden for its own use. With the silent support of the A. M. C. M. A. and the assistance of its members as exhibitors, the show was staged in the Sixty-ninth Regiment Armory. The following year adjournment was made to the Palace, which since has been the scene of one other exhibition conducted under the same joint auspices. This year, however, the management of the affair is entirely in the hands of the A. M. C. M. A., under whose persuasive guidance it has assumed greater proportions than ever before.

Although nominally placed in control of the show for the first time this year, Alfred Reeves, general manager of the association, Benjamin Briscoe, its chairman, and H. O. Smith, who is chairman of the show committee, actually had been deeply involved

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in the work of perfecting the organization of the previous ventures.

Just what it means to stage and manage a big metropolitan exposition of this nature it is given to very few men to know. The immensity of the task and the amount of tedious detail to be handled carefully and critically are beyond the comprehension of the ordinary visitor—even of the exhibitor himself in many cases. It is worthy of note also, that the mere administration of the show during its life, is a very small portion of the work entailed in planning and organizing it. On this account, when the doors of the Palace open tonight, the committeemen will see the culmination of a prolonged effort lasting over more than nine months, and just as the tedium which awaits the exhibitor in his stall is beginning to take hold, the show management experiences a feeling of assurance and contentment unknown for many weeks, because the hardest portion of its task is now over.



BENJAMIN BRISCOE
Chairman of Committee of Management

The setting for the show is quite the most ostentatious yet assumed in the Palace. The exterior, with its bare portico of structural iron and glass, has been transformed into an ornamental portcochere, backed by a huge oil painting in deep-set frame, brilliantly illuminated at night, and alluring to the displays within. The uncouth walls of the entrance hall and stairway have been disguised with huge oil paintings depicting various conceptions of the grouping of feminine beauty with mechanical achievements in the shape of motors, ignition devices and accoutrements of various sorts. Heroic statues further grace the hall and point the way to the upper regions where the show is held.

In the main hall, and at the end ordinarily occupied by the stage, a garden has been laid out, the greenery surrounding but not concealing a further grouping of statuary. The early English style of treatment accorded the entire interior, though simple in detail, lends itself to the purpose it is destined to serve, which is that of forming merely an inconspicuous and harmonious background for the displays which constitute the real purpose of the scene.



H. O. SMITH
Chairman of Show Committee

Show Week Calendar.

Thursday, December 31.

Meeting of Show Committee A. M. C. M. A., 10 a. m.

Private view of Show to members of the press and invited guests, 3 p. m.

Meeting Executive Committee, New York Automobile Trade Association.

Formal opening of Show, 8 p. m.

Gala Night.

Friday, January 1.

Army and Navy Night.

Saturday, January 2.

Show Smoker to visiting motorists and dealers, at A. C. A. club house, 10.30 p. m.

Students' Night.

Monday, January 4.

Meeting Executive Committee, American Automobile Association, 2 p. m.

Engineers' Night.

Tuesday, January 5.

Meeting Executive Committee, National Retail Dealers Association, 10 a. m.

Show Luncheon to exhibitors, by A. M. C. M. A., Hotel Manhattan, 1 p. m.

Meeting Board of Governors, Automobile Club of America, 4 p. m.

Annual Meeting, Society of Automobile Engineers, morning and afternoon sessions, at A. C. A. club house; dinner, 8 p. m.

Society Night.

Wednesday, January 6.

Meeting Committee of Management, A. M. C. M. A., 10 a. m.

Meeting Board of Directors, Importers' Automobile Salon.

Executive Committee Meeting, Motor and Accessory Manufacturers.

Merchants' Night.

Thursday, January 7.

Executive Committee Meeting, American Motor League.

Municipal Night.

Aside from the decorations, several other innovations have been brought about. For example, the official opening at 8 o'clock to-night will be presided over by Acting Mayor Patrick F. McGowan, who in the absence of Mayor McClellan will make the address of welcome and formally turn the show over to the members of the trade and the visiting public. Although civic recognition of the importance of the shows has been courted repeatedly in the past, it never has been won until now. While this ceremony will directly affect the public as signifying the real opening of the exhibition, the private view of the show at 3 o'clock in the afternoon will be more auspicious than any of its predecessors. Over 3,000 invitations are said to have been sent out to persons qualified to attend the affair, these including judges, congressmen, senators and assemblymen of the State legislature, members of the Automobile Club of America and the officers of all automobile clubs affiliated with the American Automobile Association.



ALFRED REEVES
General Manager A. M. C. M. A.

Of the 253 separate exhibitors of complete vehicles, parts, accessories and sundries, which are revealed by the official list, no less than 73 will be either the manufacturers of complete cars of one sort or another, or their representatives. The American industry will have a contingent of 61 displays, 48 of them being pleasure vehicles and 12 commercial or business vehicles, while no less than 180 separate displays will be given over to the exhibitors of parts and accessories.

Failing the encouragement needed to support an independent show of their own, the members of the Importers' Automobile Salon have this year joined forces with the A. M. C. M. A., and taken over a liberal allotment of floor space for the staging of

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the foreign product. Of importing exhibitors there will be a bakers' dozen, one of them figuring in the commercial vehicle section. In adition to the elaborate and high-powered types of pleasure vehicle which form their stock in trade, several of these stands also will be rendered more attractive to the visitor by the presence of a number of high-speed racing cars, which



GODDESS OF MOTORING

have figured more or less conspicuously in recent events.

Attention always turns immediately upon entering the show to the new cars exhibited for the first time. As is usually the case, some of these will be found to have been brought out some little time ago and to be



GENIUS OF THE MOTOR

entitled to the term "new" only from the fact that they have not been shown previously in New York. Others are of entirely new production and consequently are objects of general curiosity on every hand.

Included in the general class of new vehicles, as just indicated, will be found no



THE SPIRIT OF SPORT

less than fourteen. They are the Benner, Browniekar, Coates, Middleby, Midland, Regal, Inter-State, Speedwell, American Simplex, Bristol, Cleveland, Grabowsky, Gramm-Logan and Hart-Kraft. The Benner is a light, six-cylinder runabout of semi-racing lines, but destined for general runabout duty. The Browniekar is distinguished as the first and only gasolene-driven juvenile machine ever placed on the market—a real automobile in miniature, but designed along lines which are calculated to make it safe as well as active in the hands of fortunate youth.

The Middleby is an air-cooled machine, with 25-horsepower motor, weighing about 1,750 pounds, and selling for $850 in runabout form. It also is made with surry or convertible runabout body. The Midland is a larger and more pretentious vehicle, selling at $2,250 and featured as a particularly light weight machine, considering its power and equipment. The Regal is intermediate in cost between the last two named, is propelled by a 4-inch "square" engine, and is produced either in runabout or tour-



GODDESS OF MOTORING



GENIUS OF THE MAGNETO

ing form. The Speedwell, though not before exhibited in New York, has been seen in the East before, and is well known in the Middle West. It is one of the many

THE CARS ON VIEW.

American.

Acme	Moline
American	Moon
Anderson	Mora
Atlas	National
Austin	Oakland
Benner	Overland
Browniekar	Pennsylvania
Brush	Premier
Cameron	Pullman
Cartercar	Regal
Chadwick	Reliable-Dayton
Chicago	Reo
Coates	Richmond
De Luxe	Holsman
Ford	Inter-State
Gaeth	Jackson
Gyroscope	Kiblinger
Lane	Kisselkar
Marion	Lambert
Marmon	Schacht
Maxwell	Simplex
Middleby	Speedwell
Midland	Stoddard-Dayton
Mitchell	Welch

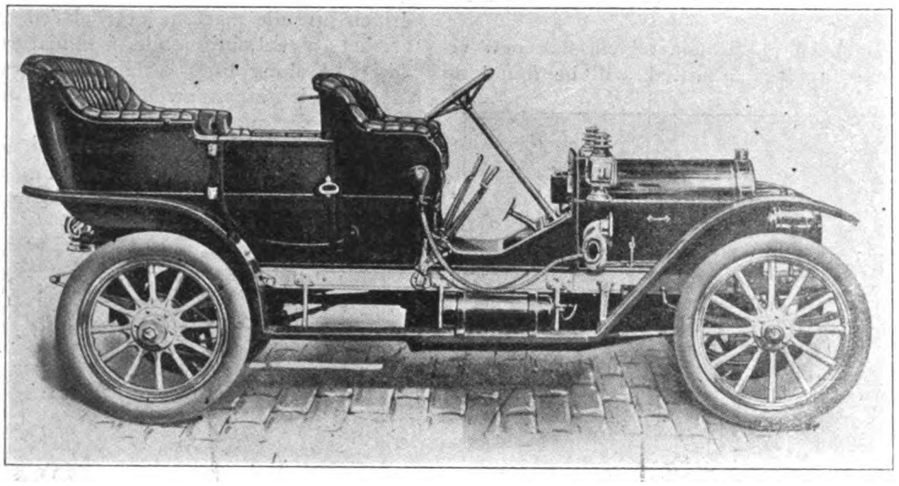
Foreign

Bayard-Clement	Hotchkiss
C. V. G.	Isotta
De Dietrich	Lancia
De Dion	Panhard
Delahaye	Renault
DeLaunay-Bellville	Sultan
Fiat	

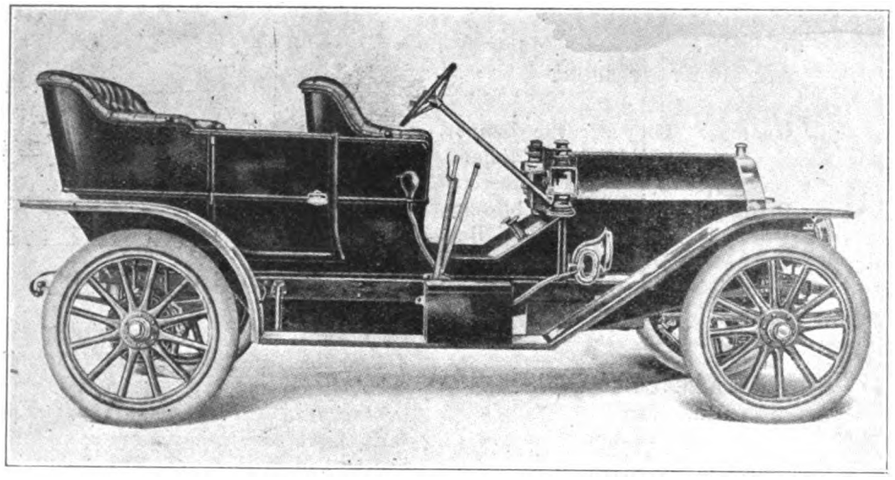
Commercial.

American	Lansden
Bristol	Manhattan
Cleveland	Pittsburg
Commercial	Rapid
Grabowsky	Reliance
Gramm-Logan	Sultan
Hart-Kraft	

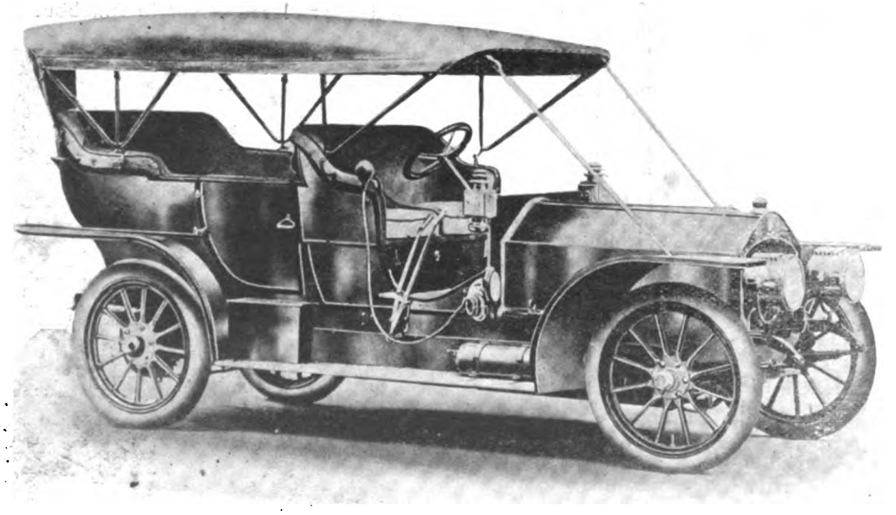
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MOON MODEL "C" TOURING CAR



INTER-STATE 35-40 H. P. TOURING CAR



ACME TYPE "20" SEXTUPLET

"completely equipped" cars, selling at a moderate figure, and possessing in addition to these inducements several structural details which are noteworthy.

Another of the newcomers, in this case a machine which never before has been exhibited in or out of New York, is the Inter-State. It is an unusually attractive offering of the medium-priced variety, but exceptional in that it is presented as a complete touring car or with a combination roadster, tourabout and demi-tonneau body—an innovation which is said to be of compelling ingenuity—at $1,750. When it is considered that it is driven by a 35-40 horsepower motor and is correspondingly robust in other particulars, the significance of the price quotation at once is made apparent.

The Bristol and Cleveland are commercial vehicles of the cab variety, the former possessing a number of unique features in the way of provisions for interchanging of parts with small loss of time. The Grabowsky, and Gramm-Logan, both are commercial vehicles which are new and both are the product of constructors who have become established within the year. The Hart-Kraft also is intended for commercial uses, but is distinguished by the use of high wheels, an interchangeable power plant, and a number of other features intended to render it especially suitable for light delivery work.

Another newcomer at the show is the Oakland, which though exhibited at other shows last spring, never before has come to New York. In the older of the two models, is to be found an unique system of balancing, which is altogether unusual and which makes possible an almost total suppression of vibration. The motor is unusual and original in other respects as well, and the vehicle as a whole displays an astonishing number of novel features. A second and larger model which is absolutely new, is equipped with a four-cylinder 40 horsepower motor.

Among the machines, already familiar as to name, but not displayed in new models this year may be mentioned the Acme, which in the main, follows its prototypes, but is shown with an engine of increased bore, enlarged valves, a rearrangement of the braking system and a marked reduction in weight.

The Cartercar, whose makers have recently undergone a change of name and a change of location, is produced in a brand new form at an even $1,000. the vehicle carries the usual friction drive feature which is characteristic of all machines of the same make, and has an 18-20 horsepower motor of the opposed type, also typical of Cartercar construction. The machine is fitted with a roadster type of body having a removable rear seat, and carries a full equipment.

The latest types of the Ford, Marmon, Maxwell, Mitchell and Pullman cars have been described in these columns within a short time, as have also the Jackson and Stoddard-Dayton. The Overland, which attracted considerable attention a year ago from the fact of its having an original system of speed control by means of pedals and was minus the usual side levers, again appears in practically the same form, the unique method of mounting the planetary change gear on the rear axle being retained. It also is accompanied by a second and entirely new model which has a four-cylinder motor and selective system of gear change operated by side levers in the conventional manner. The new Premier model,

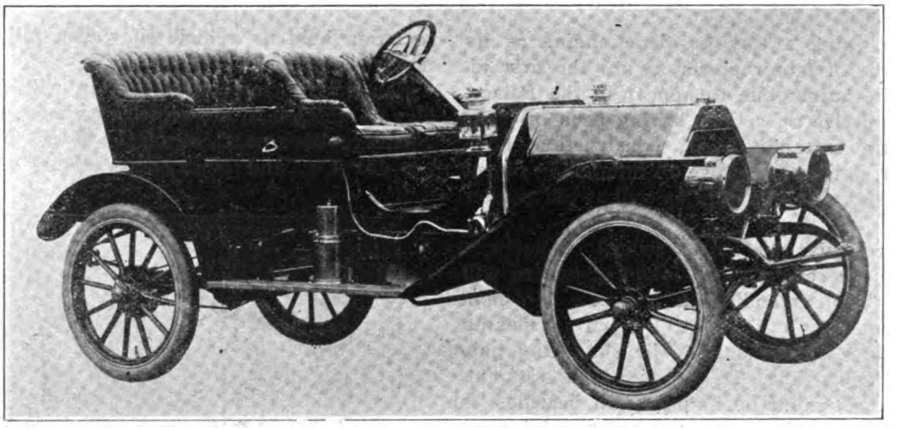
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to cite another example of a recent addition to a well known line, is of 30 horsepower and in many respects is identical with the corresponding type of the current season. The body design is entirely new, however, and sundry minor refinements have involved alterations in the construction of the chassis.

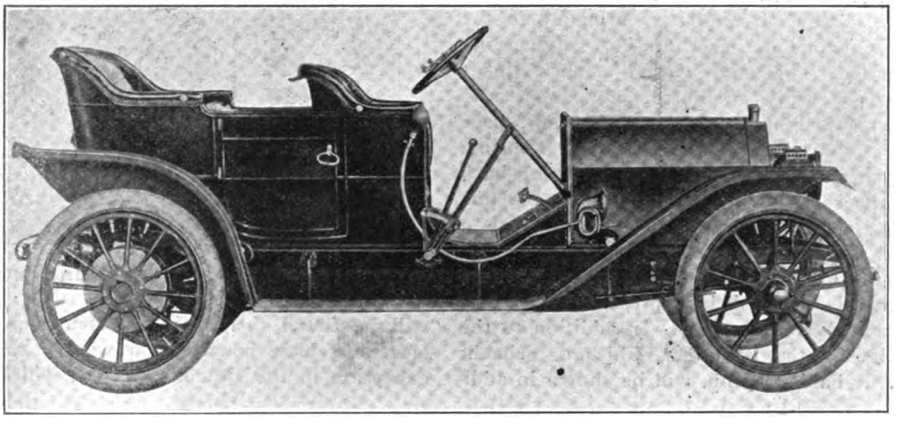
Of the "features" of the complete vehicle section of the show, it is sufficient to say that the dominant characteristic is the relation of selling price to the special elements which are most emphasized in each instance. Thus the little Maxwell Junior which embodies practically all the characteristics which have become identified with Maxwell construction as applied to the larger models which carry opposed motors, is rendered even more attractive than its compact design and small size otherwise would entitle it to be by the fact that it is offered at the $500 figure, inclusive of equipment. In a similar way, the $800 Lambert, with its friction transmission enclosed, single chain drive, three-passenger rumble runabout body and 18 horsepower motor, is said to be a remarkable concession to the requirements of the buyer affording a high value at a very low figure.

A machine noteworthy in a different way, though still made more interesting by the relatively low cost of the vehicle, is the Oakland, with its unusual construction all the way through. From the steering gear, which is arranged to give a very slight variation of leverage over the steering wheels when turned into extreme lock, to the planetary transmission with disc clutch, and shaft drive, this car will be found to reveal the original touch of the absolutely independent designer.

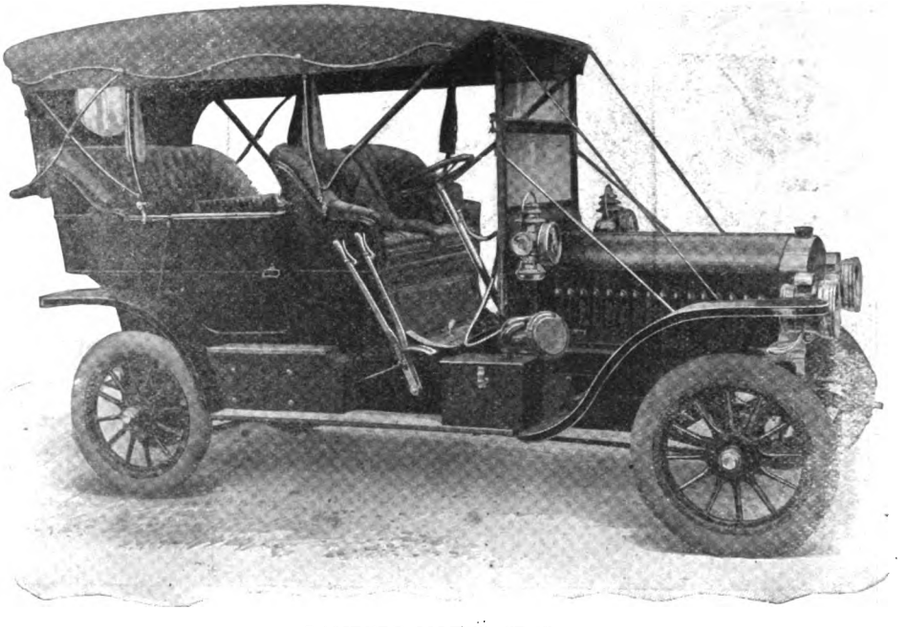
Of the Model "T" Ford, which is the most recent product of Henry Ford's genius and which though on view in New York City for some weeks, has not before been displayed at an automobile show, it may be said that aside from all other structural points, the method of design and assemblage of the power plant is most remarkable. The scheme of embodying the magneto in the fly wheel of the motor where it is perfectly protected from dust and dirt, as from injury due to violence from external sources, is perhaps its most interesting feature. The use of the combined underpan, bottom section of the crank case, and engine bed, the part being made of pressed steel and also being stretched to the rear to form a portion of the housing for the change gear, also is sufficiently radical in itself to excite comment. The motor is cast in block form, but the cylinder heads are removable, and are formed integrally in a single, water jacketed piece which may be lifted clear of the motor at slight expense of time or labor, thus giving free admittance to the tops of the pistons and the upper portions of the cylinder walls for the purpose of effecting repairs or removing the ever troublesome carbon deposit, which with ordinary construction is so hard to get at.



OVERLAND MODEL "31"



MARMON "THIRTY-TWO"



LAMBERT MODEL "B-2"

In respect to the single element of interchangeability of the power plant, the three commercial types of Bristol, Grabowsky and Hart-Kraft, already mentioned, are entitled to attention, is in each of the three cases special provision has been made for the ready removal of the complete power plant, motor, change gear and all, and its replacement after repairs have been effected, or the substitution of another, similar unit, and all with a minimum of effort and time loss.

The "toy" automobile referred to above though the first machine of its kind to be

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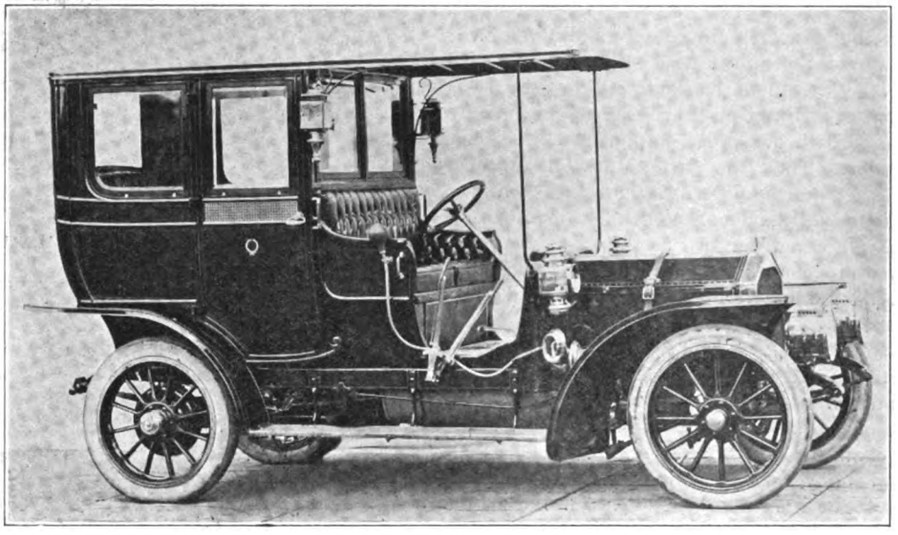
built using a tiny gasolene engine as its source of motor power, is not the first juvenile automobile to appear in the Palace, a tiny electric vehicle having been on view at the last show. Its construction, however, is likely to prove an interesting object for study to the larger as well as the smaller fry.

Probably the most radical departures from precedent to be found anywhere will be those embodied in the new Holsman "Gentleman's Carriage," which is making its bow to the automobile show-ging public at this time. Its motor, which is mounted throughout on annular ball bearings, is unusual in design to the extent of having a substitute linkage in place of the ordinary connecting rod and crank shaft construction, somewhat similar in principle to the Scotch yoke of other lines of engineering practice. The motor is of the four-cylinder opposed type, air-cooled, compacted into an astonishingly small amount of space and mounted on the jack shaft housing, which is moved toward the front or back of the carriage in order to adjust the tension on the driving cables—which are a well known Holsman feature.

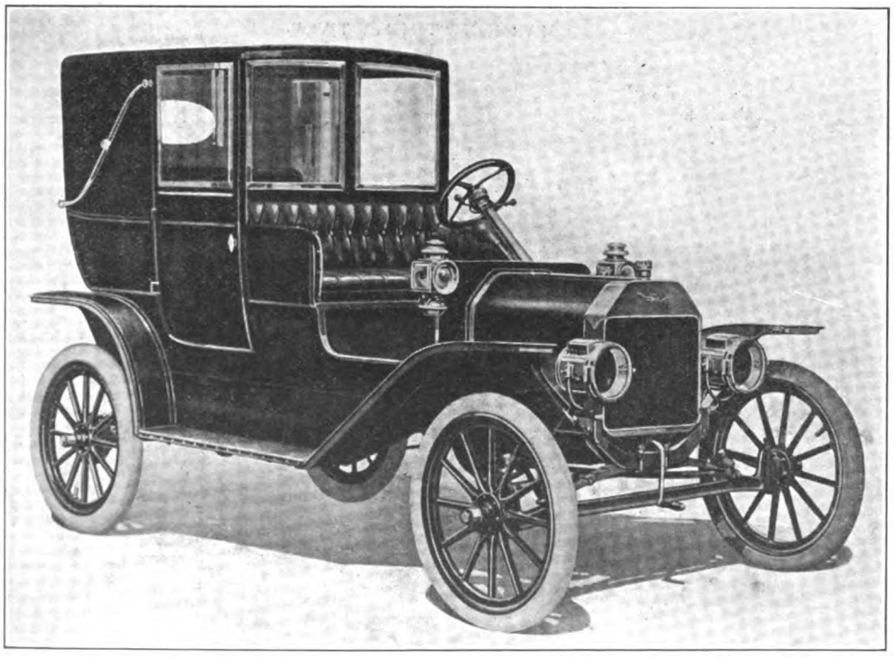
The high-wheeled motor buggy contingent this year will be represented by a half doxen different makers. In addition to the Holsman, the Kiblinger, Chicago, Schacht and Reliable-Dayton, will be shown in addition to the Hart-Kraft commercial vericle already referred to. That the latter may not stand alone, the Reliable-Dayton stand also will be graced with a commercial or delivery wagon never before shown at a New York show, though it made its appearance along with a number of other cars to be represented at the Palace when the National Carriage Dealers Protective Association held its vehicle show last fall in the same building.

The purely commercial section will display in addition to the vehicles named, such extensive lines as those of the Rapid Motor Car Co., and Mack Bros. Here also will be found the small representation of electric vehicle construction with a single exception in the Detroit Electric, which is staged also n the balcony. Those of the commercial vehicles which are electrically propelled are the Commercial trucks, the Pittsburg delivery wagons, light and heavy, and the Lansden ffuartet of vehicles, light and heavy, but all designed for commercial purposes.

"Tendencies" or "trends" in designs and construction are of far less interest to the show-goer this year than ever before because of the high degree of interchangeability which has been achieved by so many makers, itself tending to discourage any alterations in design except such as may be absolutely necessary or of minor significance, and because of the uniformity of the various products in so many respects. Nevertheless in the general adoption of certain standard types of vehicle, in the installation of certain important accessories and fittings, sufficient inclination among the makers to flock together is discoverable, to furnish ample opportunity for the thoughtful visitor to pursue his accustomed show avocation of studying the general movements of the mechanical side of the industry.



PULLMAN MODEL "M" LIMOUSINE



FORD TAXICAB

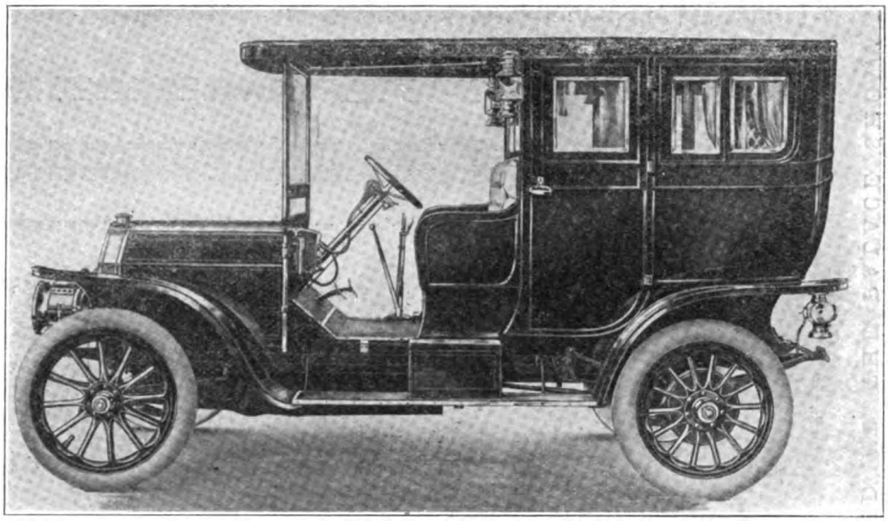
By way of characterization, it is sufficient to say that the Palace Show will reveal in astonishing proportions, the effect of the movement of the year which, beyond all question has been the development of the medium priced car. Besides, there will be the ever-growing display of closed vehicles, which, whether designated openly as taximeter cabs, or whether planned for the more ostentatious use of the calling and shopping town car, form a distinct and interesting class, and quite as much an indication of industrial trend as is witnessed in the low and medium priced touring car and runabout.

In body design, this same short, handy town car, with its close coupled chassis, will be found in many styles, and may be considered a feature of the show. Wheels larger than ever will be seen on every hand. On the heavier vehicles the 36-inch wheel has become practically standard, while 40 inches of wheel diameter on the American does not look as ungainly as did the 36-inch wheels of a few years ago. Tires have been silghtly increased in cross section in many instances, particularly on the larger vehicles.

In spring suspension the usual amount

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of ingenuity has been expended. The once all but universal semi-elliptic spring has been replaced in many cases by full ellip-tics and three-quarter platforms. Further springs have been improved in hidden structural details, such as by the use of the



STODDARD-DAYTON "9-F" LIMOUSINE

costly and high grade metals, which are capable of greater elasticity and longer life than ever was imagined by the pioneers of the carriage trade.

The tendency toward increasing the number of cylinders with no limit in sight, which was so noteworthy a few years ago, has ceased, and the pendulum is swinging back toward lighter and simpler constructions more suited to the needs of the masses. Of course, there are and will always be structures suited to a limited class who admire the smooth running of the multiple cylinder motor and to this class the big six cylinder machines, of which there are a goodly number, will appeal, but the lighter fours will attract the attention of the majority, with a limited number of two cylinder cars like the Jackson, Lambert and Maxwell which, though made in large numbers, do not form an impressive array at the show.

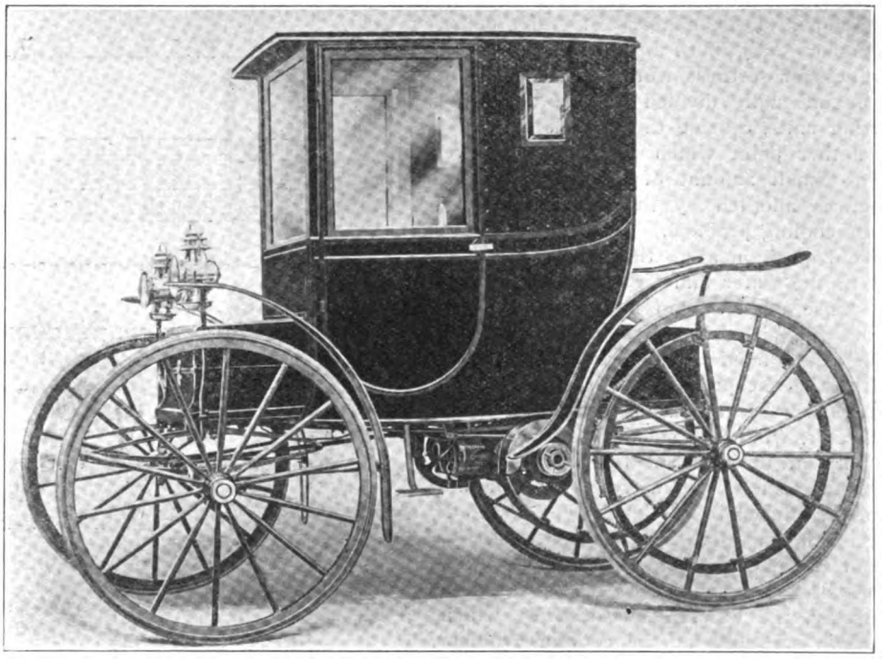
Perhaps one of the most remarkable developments, if not of the past year, certainly of the past two years, has been the growth among the makers in the popularity of the magneto. On a very large number of cars of medium price it is obtainable as an option, while on a smaller but correspondingly noteworthy group of cars it is found as a regular part of the stock equipment, and so featured by the manufacturer. As a matter of course, the use of the high tension system has been adopted by the makers of the more luxurious types of vehicle, almost without exception.

Among other items of simplification which this movement has aided very largely is the clearing of the dash, which this year will be more marked even than it was a year ago, when it was widely commented upon. Oiling systems have been simplified and placed on or near the parts they serve instead of on the dash. Speedometers and odometers and often clocks have been combined into one instrument, which is a serviceable ornament instead of a complicated clutter.

The two stroke cycle motor as used by the Atlas, will be shown in slightly increased numbers and will attract attention more than ever because of the possibilities of lower cost and still greater simplicity; both of which lead toward a larger use of the motor vehicle. The friction drive is another simple device which is capable of superior service. Shown for several years on the Lambert and Carter car it is winning recognition as a satisfactory drive for light vehicles where ease of manipulation and wide range of speeds is needed.

While mechanical tendencies no longer form the attraction to the show-goer that they used to do, there are still a number of points about which no little interest hinges even for the layman. Furthermore, it is noteworthy that as time goes on, these questions concern more deeply the technical side of motor construction. Where a few years ago the number of cylinders employed, the relative advantages of shaft and chain drives, and the comparison of weights and powers absorbed the attention of the visitor very largely, now the use of the finer materials of construction, and other considerations which formerly appealed only to the designer and builder are coming to the notice of the ordinary observer.

One of these considerations is revealed in the wide divergence of practice in the use of ball and roller bearings. With the exception of the crank shaft, it is now customary to use some sort of anti-friction bearing on practically every journal of the high grade car. In respect to the exact type employed, however, there appears to be no general agreement among the designers. In some instances the advantages of the annular ball type are exploited with especial vigor by makers who employ them practically throughout their cars. Others, with equal eranestness sing the praises of the roller bearing and use it with commendable consistency. In still other cases "mixed" practice is found, rear axles being mounted in roller bearings, while the shafts of the gearsets are carried by ball bearings. Occasionally front and rear wheels are mounted on different types.



HOLSMAN "GENTLEMEN'S AUTOMOBILE"

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Examples of the use of roller bearings on all four wheels are to be found in the case of the Acme, Stoddard-Dayton and some of the Lambert models, while ball bearings are used on the American, Brush, Moon, National, Pennslvania, Premier, and some others. Other designers who employ ball bearings at one place and rollers at another, and, like the Marmon, employ rollers on the front wheel bearings and balls on the rear, or like the Mitchell, have balls in the front and rollers in the rear.

In general the use of roller bearings seems to be increasing, although the users of ball bearings have lost no enthusiasm and their use is rapidly extending, particularly to the smaller parts, where space and weight is of some importance. The fact that the roller depends upon a line of contact instead of a point renders it more able to carry a heavy load, and thus accounts for a preference in the certain places. The tendency toward the use of ball bearings on the motor shafts seems not to be increasing, although the new Holsman motor employs balls throughout.

In a word, the growing use of the antifriction type of bearing is a marked tribute to the general adoption of modern and improved methods of accurate interchangeable production and to the use of high grade metals. Without these features, the bearings would be practically useless, since any inaccuracy of alignment, any inequality in the temper of the material of either balls, rollers or races, or of any undue degree of hardness or softness would cause the load to be unequally divided on the tiny supporting units, causing their breakdown.

Another point which is still productive of no small amount of difference in the practices adopted by the various makers is the cooling problem. There is no longer the old question as to the relative supremacy of the water and air cooling methods, for those makers who have continued to retain the air-cooling system are by this time firmly fixed in their adherence to it. With rare exceptions, it will be observed, the motors of the larger cars are cooled by water, while the smaller machines, and notably in the case of the motor buggy type of vehicle, are more apt to be air cooled. Indeed in the latter type air cooling is almost exclusively encountered.

But if there is less rivalry between the types of water and air cooled motor than formerly, the different methods by which the two solutions of the cooling problem may be approached left sufficient divergency to afford no small amount of variety in the field. This in the simpler air-cooled type, the method of circulating the air around the cylinders, the method of forming and arranging the radiating flanges even the location of the flanges of the cylinders, will be found to vary considerably, if closely observed. In the case of the water cooled motor, on the other hand, practical differences which are of considerable im-

SPECIFICATIONS OF PLEASURE VEHICLES STAGED AT THE PALACE SHOW

Price.	Name of Car.	Style.	Model.	No. Pas-sengers.	H.P.	Cyls. No.	Arrange-ment.	Bore.	Stroke.	Ignition Source.	Clutch.	Change Gear.	No. speeds.	Drive.	Wheel base.	Tire sizes Front.	Tire sizes Rear.	Weight.
$450	Kiblinger	Runabout	H	2	13½	2	Horizontal	4¼	3¾	Dry cells	Disc	Planetary	2	Chain	69	—x1¾	—x1¾	1,100
500	Kiblinger	Runabout	L	2	13½	2	Horizontal	4¼	3¾	Dry cells	Disc	Planetary	2	Chain	78½	—x1¾	—x1¾	
500	Maxwell	Runabout	A	2	10	2	Horizontal	4	4	Dry cells	Disc	Planetary	2	Shaft	82	28x3	28x3	1,400
500	Reo	Runabout	B	2	10	1	Horizontal	4¼	6	Dry cells	Disc	Planetary	2	Chain	78	28x3	28x3	
550	Brush	Runabout	4	2	7	1	Vertical	4	4	Dry cells	Disc	Planetary	2	Chain	74	32x2	32x2	900
550	Holsman	Runabout	N	2	12½	2	Horizontal	4	4	Dry cells	Special	Special	2	Cable	65	—x1¼	—x1¼	815
550	Kiblinger	Runabout	NN	3	16	2	Horizontal	4¼	4¼	Dry cells	Disc	Planetary	2	Chain	78½	—x1¾	—x1¾	
600	Kiblinger	Runabout	GG	3	16	2	Horizontal	4¼	4¼	Dry cells	Disc	Planetary	2	Chain	89	—x1¾	—x1¾	
600	Kiblinger	Surrey	S	4	16	2	Horizontal	4	4¼	Dry cells	Disc	Planetary	2	Chain	78	—x1½	—x1½	845
650	Holsman	Runabout	P	2	12½	2	Horizontal	4¼	4¼	Battery	Special	Special	2	Cable	65	—x1¼	—x1¼	
675	Holsman	Surrey	10	6	16	2	Horizontal	4	4¼	Dry cells	Disc	Special	2	Chain	100	—x1¾	—x1¾	940
750	Holsman	Stanhope	M	2	12½	2	Horizontal	4¼	4	Battery	Special	Special	2	Cable	75	—x1¼	—x1¼	
750	Kiblinger	Runabout	11	3	27	2	Horizontal	4¼	3¾	Battery	Disc	Planetary	2	Chain	100	—x1¾	—x1¾	
800	Holsman	Surrey	A1	4	12½	2	Horizontal	5	4	Dry cells	Special	Special	2	Cable	75	—x1¼	—x1¼	1,055
800	Lambert	Runabout	LD	3	20	2	Horizontal	4½	4	Mag. & Bat.	Disc	Friction	2	Chain	95	30x3	30x3	1,350
825	Maxwell	Runabout	14	2	14	4	Vertical	3¾	4	Magneto	Disc	Planetary	3	Shaft	100	30x3	30x3	1,150
850	Ford	Touring	F	5	15-18	4	Horizontal	5	4	Battery	Disc	Planetary	2	Shaft	100	30x3	30x3½	1,200
850	Jackson	Runabout	T	2	15-18	2	Vertical	3¾	4	Magneto	Disc	Planetary	2	Shaft	96	30x3	30x3½	1,600
950	Ford	Taxicab	K	4	16-18	2	Vertical	5	4	Battery	Disc	Planetary	2	Shaft	100	30x3	30x3½	1,250
950	Jackson	Touring	K	4	16-18	2	Horizontal	4¼	4	Dry cells	Disc	Planetary	2	Shaft	96	30x3	30x3½	1,600
1,000	Cartercar	Roadster	H	2	18-20	2	Horizontal	3¾	4	Dry cells	.....	Friction	2	Chain	94	30x3	30x3½	1,400
1,000	Ford	Town Car	T	5	20	4	Vertical			Magneto	Special	Planetary	2	Shaft	100	30x3	—x1¾	.....
1,000	Holsman	Coupe	H-15	2	20	4	Horizontal	4	4	Battery	Special	Special	2	Chain	80	30x3	30x3	1,700
1,000	Mitchell	Runabout	J	2	20	4	Vertical	4	4	Battery	Cone	Special	3	Shaft	92	32x3½	32x3½	.....
1,000	Reo	Touring	D	5	20-22	4	Horizontal	4¼	6	Dry cells	Disc	Planetary	2	Chain	96	32x3½	32x3½	1,700
1,200	Oakland	Runabout	20-A	3	20	2	Vertical	4¼	5	Mag. & Bat.	Band	Planetary	2	Shaft	100	32x3½	32x3½	1,700
1,250	Atlas	Runabout	R	2	22	2	(2 cycle) Vert.	4½	4½	Dry cells	Disc	Planetary	2	Chain	90	30x3½	30x3½	1,500
1,250	Jackson	Roadster	C	2	20-24	2	Horizontal	5¼	5	Accumulator	.....	Sliding gear	2	Chain	104	32x3½	32x3½	2,000
1,250	Lambert	Touring	30	2	28	4	Vertical	4	4	Accumulator	.....	Friction	2	Belt	110½	30x3½	30x3½	1,500
1,250	Oakland	Touring	20-B & 20-C	4	20	2	Vertical	4½	5	Mag. & Bat.	Disc	Planetary	2	Shaft	100	30x3½	30x3½	1,600
1,250	Overland	Roadster	30	4	30	4	Vertical		4½	Mag. & Bat.	Metal cone	Planetary	2	Shaft	105	32x3½	32x3½	1,740
1,250	Regal	Touring	A	3	30	4	Vertical	4	4½	Mag. & Bat.	Cone	Sliding gear	3	Shaft	105	32x3½	32x3½	1,700
1,300	Overland	Roadster	30	4	30	4	Vertical	4½	4½	Mag. & Bat.	Metal cone	Sliding gear	3	Shaft	105	32x3½	32x3½	1,900
1,300	Cartercar	Touring	K	4	30	4	Vertical	4	4	Dry cells	Disc	Planetary	2	Chain	103	32x3½	32x3½	1,755
1,350	Maxwell	Runabout	Doctor	2	22-24	2	Horizontal	5½	5	.....	Disc	Friction	2	Chain	103	32x3½	32x3½	.....
1,350	Maxwell	Touring	HD	2	20	2	Horizontal	5	5	Mag. & Bat.	Disc	Sliding gear	3	Shaft	96	30x3½	30x3½	1,700
1,450	Maxwell	Touring	K	5	28-30	4	Vertical	4½	4½	Mag. & Bat.	Disc	Sliding gear	3	Shaft	96	30x3½	30x3½	1,700
1,800	Mitchell	Touring	K	5	28-30	4	Vertical	4½	4½	Mag.& Dry cells.	Cone	Selective	3	Shaft	105	32x4	32x4	2,300
1,500	Moline	Touring	32	5	24	4	Vertical	3¾	4½	Accumulator	Cone	Selective	3	Shaft	106	34x3½	34x4	2,000
1,500	Overland	Roadster	30	4	30	4	Vertical	4	4½	Bat. & Mag.	Cone	Selective	3	Shaft	110	34x3½	34x4	2,000
1,500	Pullman	Runabout	L	3	20	4	Vertical	3¾	4½	Accumulator	Disc	Selective	3	Shaft	102	32x3½	32x4	1,750
1,500	Stoddard-Dayton	Roadster	9-H	4	25	4	Vertical	3¾	4½	Bat. & Mag.	Disc	Selective	3	Shaft	110	32x4	32x4	2,400
1,600	Jackson	Touring	H	4	30	4	Vertical	4½	4½	Bat. & Mag.	Disc	Sliding gear	3	Shaft	110	32x4	36x4	2,300
1,600	Oakland	Run. or Tour.	40	5	40	4	Vertical	4½	5	Bat. & Mag.	Disc	Sliding gear	3	Shaft	112	34x4	36x4	2,100
1,750	Lambert	Touring	19	5	35-40	4	Vertical	4½	5	Bat. & Mag.	.....	Friction	2	Belt	105	32x4½	32x4½	1,900
1,750	Maxwell	Touring	DA	4	24-30	4	Vertical	4¼	4½	Bat. & Mag.	Disc	Sliding gear	3	Shaft	104	32x4	32x4	2,100
1,800	Atlas	Run. or Tour.	F	3	33	4	(2 cycle) Vert.	4½	4½	Dry cells	Band	Selective	3	Shaft	110	30x4	30x4	2,400
1,800	Midland	Toy Tonneau	E	4	25-30	4	Vertical	4¼	5	Battery	Disc	Selective	3	Shaft	110	34x3½	34x3½	2,000
1,850	Mora	"Racy type"	"Light 4"	4	24-28	4	Vertical	4	5½	Battery	Inv. cone	Selective	3	Shaft	110	32x4	32x4	2,200
2,000	Jackson	Tour or Roadst.	E	5	35	4	Vertical	4¼	4¼	Bat. & Mag.	Disc	Sliding gear	3	Shaft	111	34x4	34x4	2,700
2,000	Lambert	Touring	B-2	7	35-40	4	Vertical	4½	5	Bat. & Mag.	.....	Friction	3	Chain	106	32x4	32x4	2,700
2,000	Mitchell	Touring	L	7	35-40	4	Vertical	4½	5	Mag.& Dry cells.	Cone	Selective	3	Shaft	122	34x4	34x4	2,700
2,000	Overland	Run. or Tour.	34	5	35	6	Vertical	3½	4½	Bat. & Mag.	Cone	Selective	3	Shaft	116	32x4	32x4	2,200
2,000	Pennsylvania	Runabout	D-25	2	28	4	Vertical	4¼	4½	Magneto	Cone	Selective	3	Shaft	110	34x3½	34x3½	2,250
2,000	Pullman	Touring	K	5	30	4	Vertical	4½	4½	Bat. & Mag.	Cone	Selective	3	Shaft	106	34x3½	34x3½	2,600
2,000	Stoddard-Dayton	Touring	9-A	5	35	4	Vertical	4	5	.....	.....	Selective	3	Shaft	110½	32x4	32x4	2,400
2,000	Stoddard-Dayton	Roadster	9-C	2-4	35	4	Vertical	4	5	.....	Cone	Selective	3	Shaft	110½	32x4	32x4	2,400
2,100	Pennsylvania	Touring	D-25	5	28	4	Vertical	4¼	4½	Magneto	Disc	Selective	3	Shaft	110	34x4	34x4	2,650
2,250	Midland	Tour or Roadst.	G	5	30-35	4	Vertical	4½	5¼	Mag.& Dry cells.	Disc	Selective	3	Shaft	112	34x3½	34x3½	1,975
2,400	Marmon	Tour or Roadst.	32	2-5	32-40	4	Vertical	4½	¼	Bat. & Mag.	Expanding	Selective	3	Shaft	112	34x3½	34x3½	

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SPECIFICATIONS OF COMMERCIAL VEHICLES STAGED AT THE PALACE SHOW

Price.	Name of Car.	Style.	Model.	Carrying Capacity. lbs.	H.P.	No. Cyls.	Arrangement.	Bore.	Stroke.	Ignition Source.	Clutch.	Change Gear.	No. Speeds.	Drive.	Wheel base.	Tire sizes. Front.	Tire sizes. Rear.	Weight.
$475	Kiblinger	Mail wagon	R	.....	13.6	2	Horizontal	4½	3¾	Dry cells	Disc	Planetary	2	Chain	69	—x1¼	—x1¼	.....
600	Brush	Delivery	Deliv.	500	12½	2	Vertical	4	4	Dry cells	Disc	Planetary	2	Chain	74	32x3	32x3	950
700	Holsman	Light deliv.	12	.....	7	1	Horizontal	4	4	Dry cells	Special	Special	2	Cable	75	—x1¼	—x1¼	1,060
825	Kiblinger	Delivery	150	.....	16	2	Horizontal	4¼	4¼	Dry cells	Disc	Planetary	3	Chain	77	34x—	34x—	.....
1,400	Maxwell	Delivery	.....	.....	20	2	Horizontal	5	5	Bat. & Mag.	Disc	Sliding gear	3	Shaft	90	30x3½	30x4	1,700
2,300 up	Grabowsky	Various	....	2,000	25-35	2	Horizontal	5½	5	Bat. & Mag.	Cone	Planetary	3	Sh & Ch	102	—x3½	—x3½	2,900
3,750 up	Manhattan	Various	....	4,000 up	50	4	Vertical	3½	5½	Magneto	Cone	Individual	3	Chain	120-168	—x—	—x—	2,900
.....	Rapid	Various	....	.....	24-30	2	Horizontal	5¼	5	Dry cells	Disc	Planetary	2	Chain	100-111	—x3½	—x3½	.....
.....	Rapid	Various	....	.....	60	4	Vertical	5½	6½	Bat. & Mag.	Disc	Selective	2	Sh & Ch	160	36x6	34x6	7,000
2,500	Acme	Runabout	19	2	25	4	Vertical	4½	5	Bat. & Mag.	Cone	Selective	3	Shaft	96	34x4	34x4	.....
2,500	Atlas	Town or Taxi.	T	6	22	4	(2 cycle) Vert.	4½	4½	Dry cells	Band	Sliding gear	3	Shaft	100	30x4	30x4	2,500
2,500	Moline	Tour or Roadst.	K	5	35	4	Vertical	4 7-16	5	Bat. & Mag.	Cone	Selective	3	Shaft	116	36x3½	36x4	2,500
2,500	Pullman	Taxicab	Taxicab	4	20	4	Vertical	3½	5	Magneto	Cone	Selective	3	Shaft	102	30x4	30x4	2,200
2,500	Stoddard-Dayton	Tour or Roadst.	9-F & K	2-7	45	4	Vertical	4½	5½	Bat. & Mag.	Cone	Selective	3	Shaft	120	34x4	34x4	3,000
2,500	Premier	Tour or Roadst.	30	2-5	35	4	Vertical	4½	4½	Bat. & Mag.	Disc	Selective	3	Shaft	115	34x4	34x4	2,650
2,750	National	Touring	9-35	5	35	4	Vertical	4½	4¾	Bat. & Mag.	Cone	Selective	3	Shaft	115	34x4	34x4	2,600
2,750	Mora	"Racy type"	"Large 4"	2-5	60	4	Vertical	6	4¾	Bat. & Mag.	Inv. cone	Selective	3	Shaft	118	34x4	34x4	2,700
2,750	Austin	Roadster	45-R	3	45-50	6	Vertical	4½	4½	Bat. & Mag.	Disc	Selective	3	Shaft	122	36x3½	36x3½	2,250
2,750	Pullman	Runabout	6-30	3	30	6	Vertical	3¼	3¼	Bat. & Mag.	Cone	Selective	3	Shaft	104	34x3½	34x3½	1,900
3,000	Austin	Touring	5	5	45-50	6	Vertical	4½	4½	Bat. & Mag.	Disc	Selective	3	Shaft	122	36x3½	36x3½	2,350
3,000	Moon	Tour. or Roadst.	C-50	5	30-35	4	Vertical	4½	4½	Magneto	Disc	Selective	4	Shaft	112	34x3½	34x4½	2,700
3,000	Pennsylvania	Touring	36	5	36	4	Vertical	4¾	5¼	Magneto	Cone	Selective	3	Shaft	114	34x4	34x4½	2,800
3,000	Pullman	Runabout	4-40	3	40	4	Vertical	5	5¼	Mag. & Dry cells	Cone	Select. or Prog.	3	Shaft	106	36x4	36x4	2,300
3,500	Acme	Touring	26	5	30	4	Vertical	4½	5	Bat. & Mag.	Cone	Progressive	3	Shaft	102	34x4	34x4	3,100
3,500	Gaeth	Touring	20	4-7	38	4	Vertical	4½	5¼	Bat. & Mag.	Band	Progressive	3	Shaft	114	36x3½	36x4½	2,900
3,500	Marmon	Roadster	45	2-4	45-50	4	Vertical	5	5¼	Bat. & Mag.	Disc	Selective	3	Shaft	114	34x4	34x4½	3,250
3,500	Moon	Touring	D	7	30-35	4	Vertical	4½	5½	Magneto	Disc	Selective	3	Shaft	121	36x3½	36x4½	3,100
3,500	Mora	Racytype	"Light 6"	3	42-50	6	Vertical	4	5½	Bat. & Mag.	Inv. Cone	Selective	3	Shaft	105	36x3½	36x3½	2,250
3,500	Premier	Tour. or Roadst.	45	2-7	45-55	6	Vertical	4½	5½	Bat. & Mag.	Disc	Selective	3	Shaft	124	34x4	34x4½	3,150
3,500	Pullman	Touring	M	7	40	4	Vertical	5	5½	Bat. & Mag.	Cone	Selective	4	Shaft	119	36x4	36x4½	3,000
3,600	Mora	Touring	"Light 6"	5	42-50	6	Vertical	4	5½	Bat. & Mag.	Inv. Cone	Selective	3	Shaft	115	36x4	36x4½	2,500
3,700	National	Touring	9-40	7	40	4	Vertical	5	5	Bat. & Mag.	Cone	Selective	3	Shaft	125	36x4½	36x4½	3,000
3,750	Acme	Touring	27	7	35	4	Vertical	5	5	Bat. & Mag.	Cone	Selective	4	Chain	115½	36x4	36x4½	3,200
3,750	American	Roadster	50	3	50	4	Vertical	5½	5½	Bat. & Mag.	Cone	Sliding gear	4	Shaft	124	36x4	36x4	2,800
3,750	Austin	Roadster	50-R	3	50-60	4	Vertical	5½	5½	Bat. & Mag.	Disc	Selective	3	Shaft	124	36x4	36x4	3,200
3,750	Marmon	Touring	50	4-7	50-60	4	Vertical	5¾	5	Bat. & Mag.	Disc	Selective	3	Shaft	118	36x5	36x5	3,500
3,750	Mora	Roadster	"Light 6"	4	42-50	6	Vertical	4	5½	Bat. & Mag.	Inv. Cone	Selective	3	Shaft	115	36x4	36x4	2,400
3,800	Pennsylvania	Touring	36	7	36	4	Vertical	4¾	5½	Magneto	Cone	Selective	3	Shaft	122	36x4	36x4½	3,300
3,850	Austin	Limousine	45-L	5	45-50	6	Vertical	4¼	4½	Bat. & Mag.	Disc	Selective	3	Shaft	122	36x3½	36x4	2,550
4,000	Amer. Simplex	Tour. or Roadst.	D-50	2-7	50	4	Vertical	5	5	Bat. & Mag.	Disc	Selective	3	Shaft	110	36x4	36x4½	3,500
4,000	American	Tour. or Roadst.	....	7	50	4	Vertical	5¼	5½	Bat. & Mag.	Cone	Selective	4	Shaft	124	36x4	36x5	3,000
4,000	Austin	Touring	50-T	7	50-60	4	Vertical	5½	5½	Bat. & Mag.	Disc	Selective	4	Shaft	124	36x4½	36x4½	3,500
4,200	National	Touring	9-50	7	50	6	Vertical	4½	4¾	Bat. & Mag.	Cone	Selective	3	Shaft	130	36x4½	36x4½	3,100
4,500	Acme	Touring	20	7	48	6	Vertical	4½	5	Bat. & Mag.	Cone	Selective	4	Chain	126	36x4	36x4½	3,500
4,500	Gaeth	Limousine	20	7	38	4	Vertical	4⅝	5¼	Bat. & Mag.	Band	Progressive	3	Shaft	114	36x4	36x4½	3,300
4,500	Welch	Tour. or Run.	4	2-7	50	4	Vertical	4⅝	5	Bat. & Mag.	Individual	Selective	4	Shaft	125	36x4½	36x4½	3,300
4,750	Austin	Roadster	60-R	3	60-90	6	Vertical	5½	5½	Bat. & Mag.	Disc	Selective	4	Shaft	134	36x4	36x4	3,500
5,000	Austin	Limousine	50-L	7	50-60	4	Vertical	5½	5½	Bat. & Mag.	Disc	Selective	4	Shaft	124	36x4½	36x4½	3,700
5,000	De Luxe	Tour. or Roadst.	C & D	5-7	50-60	4	Vertical	5	5¼	Bat. & Mag.	Cone	Selective	4	Shaft	121	36x5	36x5	3,750
5,000	National	Touring	9-60	7	60	6	Vertical	5	5	Bat. & Mag.	Cone	Selective	3	Shaft	137	36x5	36x5	3,850
5,500	Chadwick	Tour. or Roadst.	....	7	60	6	Vertical	5	6	Bat. & Mag.	Expand.	Semi-select.	4	Chain	130	36x4	36x5	3,500
5,500	Welch	Tour. or Lim.	4	7	50	4	Vertical	4½	5	Bat. & Mag.	Individual	Selective	3	Shaft	125	36x4½	36x4½	3,800
6,000	Acme	Touring	25	7	60	6	Vertical	5	5½	Bat. & Mag.	Cone	Selective	4	Chain	126	36x4½	36x4½	3,500
6,000	Welch	Tour. or Run.	6-L & M	7	75	6	Vertical	4½	5	Bat. & Mag.	Individual	Selective	3	Chain	138	36x4½	36x4½	4,000
6,500	Chadwick	Runabout	Runabout	2	60	6	Vertical	5	6	Bat. & Mag.	Expand.	Semi-select.	4	Chain	112	36x4	36x4½	3,000
7,000	Welch	Land. or Lim.	6-D, H, I	7	75	6	Vertical	4½	5	Bat. & Mag.	Individual	Selective	3	Shaft	138	36x5	36x5	4,400

portance exist in the various ways in which the piping connections are arranged, the size, shape and construction of radiators and water water jackets, and finally the method of circulating the water.

Most of the makers agree in the use of the pump in one form or another, though there is still considerable difference of opinion as to what form of pump affords the most satisfactory service. This, with differences in the method of actuating it, differences in its location and differences in the way in which it is connected into the system afford ample opportunity for criticism and investigation.

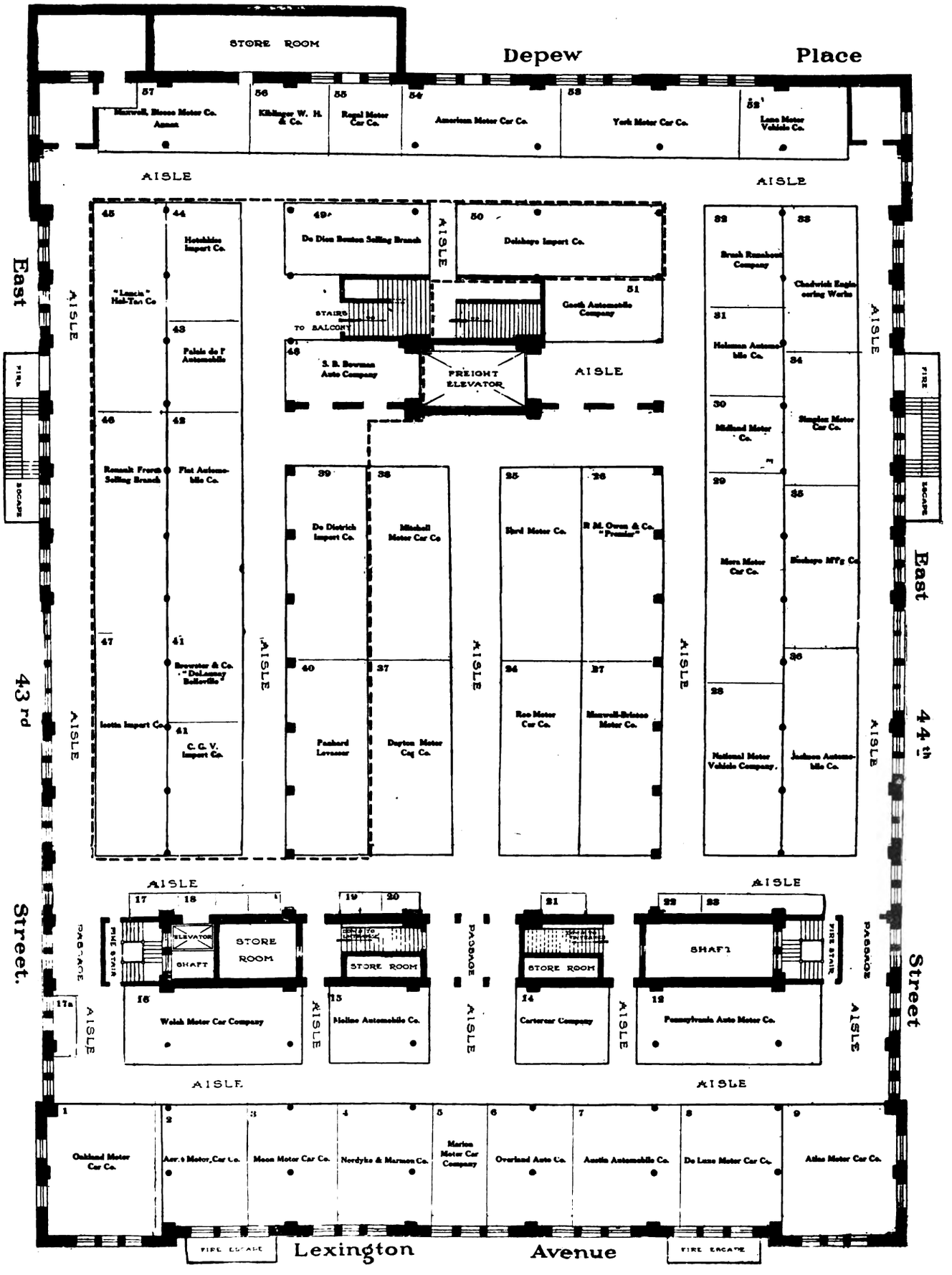
Although but little has been heard of the use of the thermo-syphon or gravity system of circulation, it is used to an extent which is probably much greater than commonly is imagined. At the show it will be found that the makers of the Brush, the Jackson, Lambert, Maxwell, Moline and several other cars use this natural circulation in some or all of their models. The advantage of thermo-syphon circulation is that the pump is omitted, the slight power required to drive it is saved, its elements of noise and trouble are eliminated and the first cost of the vehicle as well as its probable maintenance expense may be lower.

Uniformity in the production of cars of the medium priced type, has been mentioned as one of the features of the show, at the same time the variety of machines exhibited is so broad as to leave nothing to be desired in the way of vehicles at prices either very high or very low. As a matter of fact, from the $6,000 Acme, and the $5,000 types of the National and American cars, the descent to the $450 and $500 grades is remarkably uniform and it would appear that, even discounting all the mechanical features of the machines, the prospective purchaser desiring to secure a car at a certain fixed sum, would have little difficulty in finding satisfaction.

As a means of completing the study of the show, the serious-minded visitor cannot fail to take note of the price question, observing how the respective makers, animated by the desire to impress upon the purchaser the high rate of concrete return he is getting for the money spent on his car, are vieing with each other in the use of better equipments, better materials, better design, and always to make good the assertion that theirs is the most car for the least money. In many cases the result is truly remarkable from the bargain-counter point of view alone. Such cars as the little Maxwell, and the $850 Ford, or the $1,200 to $1,500 class, including such machines as the Cartercar, Oakland, Mitchell, Jackson, Lambert, Overland, and the "Doctor" Maxwell, all of them either just below or a great deal below the range of the so-called medium priced product, furnish ample opportunity for close inspection and profitable investigation, both as cars, and as sterling examples of highly economic mechanical production.

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PALACE SHOW—PLAN OF MAIN FLOOR



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Where Accessories, Tires and Parts Prevail.

From the amiable amblers who stand with wide-eyed interest when things are explained to them and are so very, very grateful at being shown even when it is certain that they understood no part of it, to the keen and eager technical inquirer, every visitor at a big automobile show finds the portions devoted to parts and accessories well worth while. The Palace show is particularly rich in the variety and number of its accessory exhibits, which embrace everything from demonstrations of how to keep coffee hot in a bottle forever to Graeco-Roman arguments on the ion valences of tertiary inductions. What is more, everybody is given a chance each night to win $5 and possibly $20, all that is required of the successful candidate for the cash being that he shall beat everybody else in a demountable rim changing contest.

And those who do not want to struggle against a stop watch for the $5 can have the fun of seeing a lot of other people make a play for the money. Tiring of the more frivolous side, it is possible to go in for pre-digested technical information. If the visitor never could understand how a thermo-syphon cooling system works, his case is provided for by a complete system of the sort in full operation and having glass tubes at different points, through which one may look and see just what happens inside and how the water insists on going downward when it cools. Similarly if the tangle of thick and thin wires on an automobile motor, connected up to various boxes, revolving contraptions and miniature steel dog houses, presents no clear and reasonable purpose to the mind beyond a hazy conviction that somehow it all helps the engine run, it is possible to take a 15-minute lesson in ignition and electricity that will elucidate the mystery so completely as to make all motor wiring appear to the graduate's eye as simple as a bone collar button.

In fact the whole spirit of the parts and accessories exhibits is one of welcome for the residents of the figurative Missouri, and if the investigator be technically equipped he has the rare pleasure of meeting demonstrators who are qualified to give him satisfactory reasons and answers to his inquiries, an experience he is far less likely to encounter when dealing with those whose duty it is to explain the merits of the complete cars.

Next to tires, ignition apparatus is one of the dominating elements in the accessories exhibit, although under a wider generalization the group of parts and materials offered for the consideration of designers and builders is perhaps the largest of all. The lesser classifications include speed indicators, wind shields, shock absorbers, and signals, and an extensive list of attachments and specialties contributing to the luxury of motoring.

Among the more prominent tire company exhibits, those of the Diamond Rubber Co., Hartford Rubber Works, Continental, Morgan & Wright, Michelin, Firestone, G & J, Empire and Goodyear, are naturally conspicuous, and are centers of interest as to the 1909 offerings which they disclose. In the Diamond space the newest thing is the improved and simplified Diamond demountable rim, which is supplied in both a touring car and a racing style. In principle it adheres to the usual type, but presents differences in detail which afford advantages. The Diamond "Grip" tires, with anti-skid treads, are the perfected products of the company's new construction. Great stress is laid on the exceedingly tough treads which characterize the Diamond line of tires for 1909.

It is at the booth of the Continental Caoutchouc Co., of New York, that the daily $5 prizes are offered to any automobile owner, prospective owner or chauffeur making the best time in changing the Continental demountable rim. At the end of the week a cash prize of $20 will be given to the person making the best time during the entire period of the show. The records are to be carefully tabulated and the books open for examination at all times. The Continental tires on exhibition include the round tread and AC flat tread, guaranteed for 3,500 miles; the flat tread type course, guaranteed for 4,500 miles; and the non-skid, steel studded type, having a 2,000 mile guarantee.

The new "Standard Universal Quick Detachable" rim, which has not been seen by show visitors before, is on view at the Hartford Rubber Works Co.'s space. In addition to the regular sizes, Hartford tires are shown in the new 31x4 and 33x4 sizes, for application to 30x3½ and 32x3½ rims, respectively. Morgan & Wright also stage the new "Standard Universal" rim. In the tires a new, heavy flat tread is featured, with claims for increased traction and puncture protection. A special tire for electric pleasure vehicles has been added to the line, its soft absorption of road irregularities being calculated to lessen current consumption and increase the service efficiency.

The Goodyear detachable and clincher tires and the Goodyear quick acting rim form the backbone of the exhibit of the Goodyear Tire & Rubber Co. The Goodyear air bottles, which made their appearance during the summer, but for which the Palace exhibition is a show debut, are represented in four sizes. The "bottles" are steel tanks filled with compressed air so that they may be used in filling tires. Each bottle is equipped with a pressure gauge by the readings of which the filling of the tire to the proper pressure may be controlled. The sizes run from the small motorcycle style to a big garage bottle.

Leather covered steel tires have been added to the Empire Automobile Tire Co.'s line, while the Republic Rubber Co. has produced a non-skid tire having rubber projections. At the Ajax stand a new non-skid is shown and members of the trade are given a hint of a valuable Ajax souvenir to come. In the class "unusual," is a cushion tire invented by Irving Snell, of Little Falls, N. Y., the tread of which is like a coarse herringbone gear.

Where different size wheels are used on a car for the front and back, a combination Stepney spare motor wheel that will fit either the front or back rims has been devised and is to be seen in the display of the Spare Motor Wheel of America, Ltd. The regular Stepney rims are revealed in various sizes and colors, and demonstrations are given as to how they may be applied to either clincher or quick detachable rims. Each Stepney carries a fully inflated tire which is ready for service immediately the rim is applied.

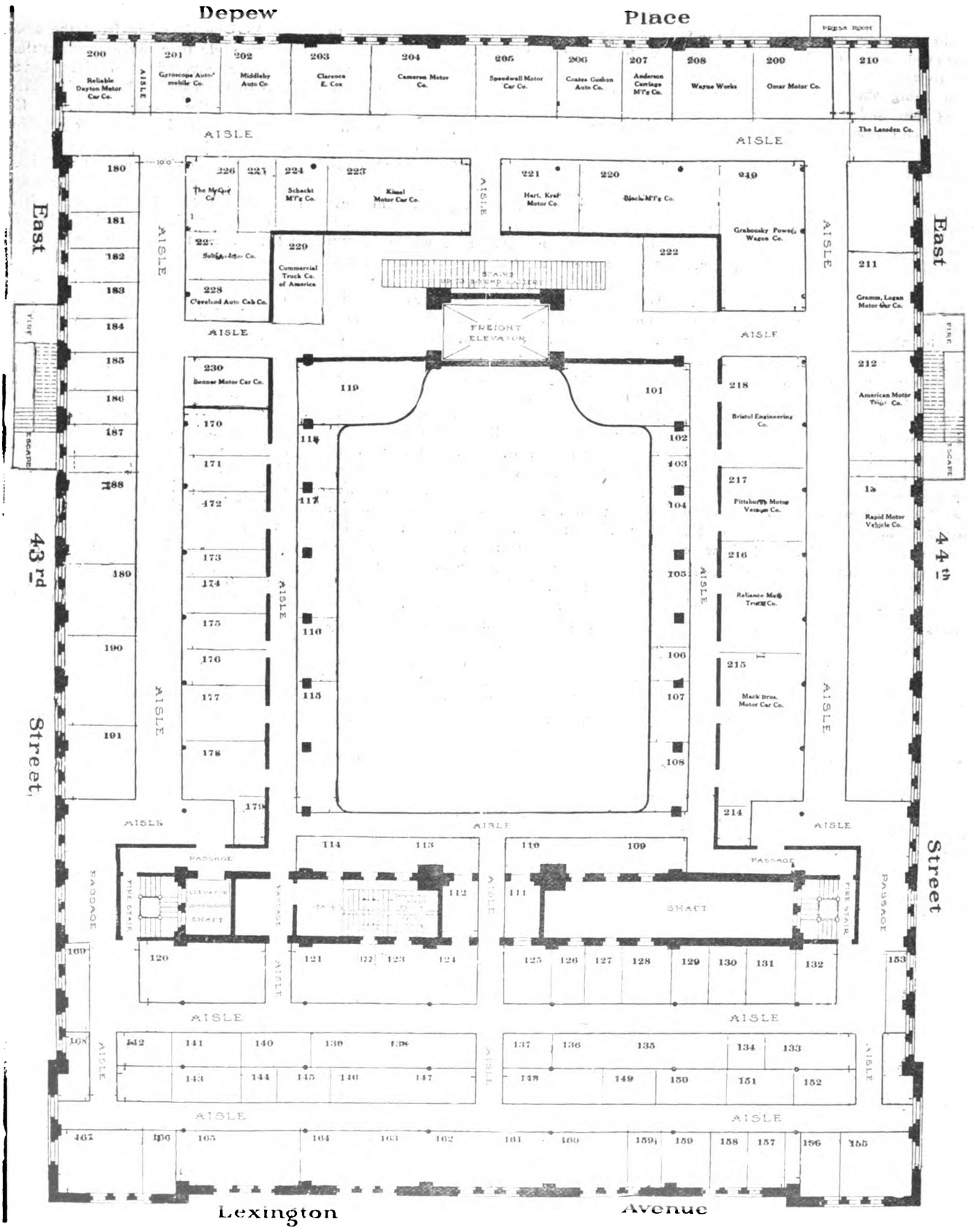
With the same interest that they watch magicians pound up gold rings and burn ladies' handkerchiefs, the crowds still respond to the fascination of seeing tacks and nails driven into Dow tubes, later to be withdrawn without the tubes becoming deflated. The stand of the Dow Tire Co. is destined to be a crowd center during the week. Weed grips, shown by the Weed Chain Tire Grip Co., present no external difference from last year, but the cross chains are now subject to a special treatment which affords two or three times the mileage that was formerly possible.

Magnetos are represented as never before, with such products as the Splitdorf, Remy, Bosch, U. & H., Volta and others. Wheeler & Schebler make their bow as magneto manufacturers, and the Pittsfield Spark Coil Co. is in the field, as is the Hess-Bright Co. The Connecticut Telephone & Electric Co., of Meriden, Conn., has prepared its usual excellent showing of switches, meters, indicators, terminals, coils, timers and distributors, with 1909 improvements. The distributer is decidedly new. The Witherbee Igniter Co., of New York, besides having a gasolene engine running day and night, equipped with one of its Volta magnetos, and all of the "Wico" products that can be applied to it, will show a Witherbee battery furnishing power for changeable electric signs.

A "battery saving" timer, in which the arc of dwell can be reduced from the usual 45 degrees to 15 degrees, is a novelty of the Autocoil Co., of Jersey City, the company also offering its coils. To explain the operation of the ignition system of a motor car the National Carbon Co., of Cleveland, has built a special and elaborate piece of

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PALACE SHOW—FIRST GALLERY



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apparatus, which analyzes the ignition system and shows the action of the spark and proves that the relation of current consumption to results varies considerably according to circumstances. It is said to be the only apparatus of its kind in existence.

"Patent leather lamps" are not such a startling innovation as they sound, because the racks in the display space of the Badger Brass Mfg. Co., of Kenosha, Wis., show them to be very substantial brass. The "patent leather" part of it refers to a black metallic, lacquer-like lustre or finish resembling that material in appearance. The Solar lamps are made up in a bewildering number of combinations of the "patent leather," polished brass and nickel exterior surfaces. Some of the lamps on exhibition will puzzle the uninformed to account for the movable levers they bear. It may be parts of a neat mechanism for eclipsing or reducing the amount of light the lamps project. On city streets it is rarely necessary to use the full strength of the more powerful "Solar" light projectors, and the eclipsing device reduces the light so that traffic coming in the opposite direction is not annoyed by the blinding glare. The array of Solars entends from the big lamps down to oil side and tail lamps, the line also including electric lamps and acetylene generators.

Entirely different in appearance irom previous models, the Warner Auto-Meter, made by the Warner Instrument Co., of Beloit, Wis., blossoms out for 1909 in much handsomer form. The exhibit discloses the fact that both the odometer and the speed indicating mechanism are contained in the one case, the latter being circular in form and having apertures in its face through which the speed and mileage readings appear. No change has been made in the vital parts of the speed indicator, the successful magnetic principle being retained. The odometer mechanism, however, is now of Warner manufacture, and has a trip register reading to 1,000 miles and a season register reading to 100,000 miles. Above the dial, but concealed inside of the bevel glass cover, is a miniature electric light which can illuminate the dial brilliantly on the darkest night.

A double tone whistle has been added to the Gabriel family of horns and signals. While resembling the three toned exhaust horns it is intended to be more shrill. The space of the Gabriel Horn Mfg. Co., of Cleveland, also contains demonstration apparatus for the Gabriel shock absorbers. The latter class of devices have suffered diminution rather than increase so far as the number of makers exhibiting is concerned. A new Richmond in the field, however, is Ernest Flentje, of Cambridge, Mass., with a glycerine recoil shock preventer.

The Jones Speedometer exhibit features the new models of low price. Three instruments, known as models 27, 28 and 29, and priced at $25, $40 and $50, are among the leaders. The complete Jones line embraces 20 different instruments, giving the purchaser the opportunity of wide selection, particularly as the prices range from as low as $15 up to $100.

"Oil and water won't mix," and the fact is taken advantage of in the Snell hydraulic system of handling oil and gasolene as exemplified in the apparatus of the Hydraulic Ooil Storage Co. The system also depends on the difference in specific gravity of water and oil. The tanks are always full of liquid, for when oil is drawn off, more water enters underneath the remainder. A model of the system being installed for the new York Taxicab Co., is shown, the absence of gasolene valves and other intricacies being emphasized.

Curiosity as to what is inside the new "multipolar induction type" speed indicator which the Stewart & Clark Mfg. Co., of Chicago, has added to its line this year may be satisfied at the company's stand by getting in the good graces of the attendant demonstrator. From the descriptive adjectives it is evident that the instrument differs radically from the centrifugal types which make up the balance of the Stewart line. A big exhibition case showing all the models in operation is the main feature of the exhibit.

Tire trunks, which sprang into favor during the past season as handy space savers with the virtue of easy access, are given a new construction for 1909 In the specimens which will be displayed during the week by the Nathan Novelty Mfg. Co. Instead of the paper and duck which have been used in this type, the styles shown are made of hard wood filled with a special waterproofing. An adjustable lock, which will well as the trunk, presents an improvement.

For the manufacturer of cars who is harnessed by production problems, great temptations to cast off a large part of his burdens on other shoulders exist in a trip around the Palace balconies. The William Cramp & Sons Ship & Engine Building Co., of Philadelphia, has rigged an enticing display of all kinds of automobile parts for which the company has supplied the metal, made the complete castings or delivered the finished product. The numerous ways in which Parsons' manganese bronze and Parson's white brass are forcefully indicated by the exhibit. Isaac G. Johnson & Co., of New York City, show a new metal known as Monel and containing from 60 to 70 per cent. nickel, which registers a tensile strength of 85,000 pounds per square inch, and which has remarkable non-corrosion qualities. It can be exposed to the atmosphere indefinitely without rusting. An unique exhibit of die castings, with specimens of pieces cast complete with finished keyways, slots, lugs, threads and clearance holes, is shown by the Wetherill Finished Castings Co., of Philadelphia. The work is done in either aluminum or Parson's white brass.

Front and rear axles complete with hubs and bearings are offered in such attractive forms and with such sureties of quality that resistance may be imagined to be difficult no matter how well the manufacturer is himself equipped to produce these parts. The Timken Roller Bearing Axle Co., of Canton, O., gives it first show view of the new pressed steel rear axle which was recently described at length in the Motor World. The exhibit also contains numerous suggestions of the great variety of ways in which Timken roller bearings may be and are employed in automobile practice.

A steel jacketed rear axle in oil, is a feature of the axle display which the American Ball Bearing Co., of Cleveland, O., has arranged. Many combinations for widely differing requirements are shown.

The Standard Roller Bearing Co., of Philadelphia, has new things to offer in this year's exhibit in its latest annular ball bearings and annular roller bearings, together with the improved Grant bearing. Axle production is a part of the concern's activities, too, as is indicated by the specimens of front and rear axles. Another Philadelphia concern, the Merchant & Evans Co. Mechanical Department, has entered the lists for front and rear axle business, displaying with some pride the "Evans" rear axle transmission. In addition to axles this company is offering, among other of its specialties, tire and tool cases of steel, which completely enclose the spare tire but utilize the space available in the center of the big diameter of the tire as a tool box.

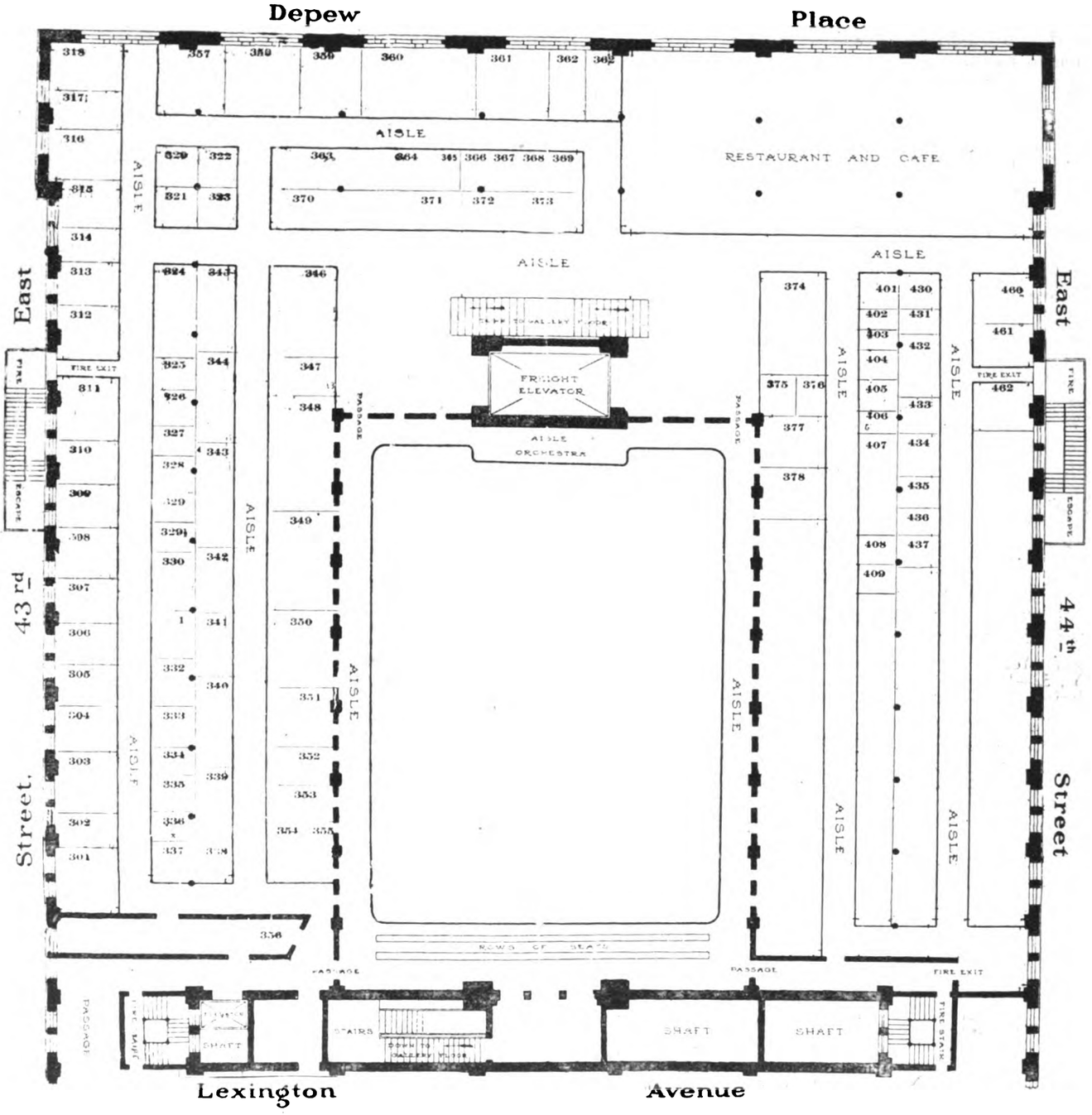
Chains, both imported and American, are to be found among the exhibits. Of the imported chains those handled by Charles E. Miller, of New York City, are by far the best known. For several years he has been the American agent for the Brampton chains made by Brampton Bros., of Birmingham, England, who were established in 1852 and who are said to be not only the oldest but the largest manufacturers of motor car, bicycle and machinery chains in the world. Several well known American cars use the Brampton chain, which has established a reputation throughout the country.

Whitney chains in many new forms make their initial appearance at the show. A number of improved roller chains for motor buggies and trucks have been evolved by the Whitney Mfg. Co., of Hartford, Conn., since the show last year. A "quiet chain," Schmidt patent, will be demonstrated, as will the Whitney chain belt. The full line of products will be represented, including samples of the new high speed vertical attachment for the Whitney hand miller, both in the plain and universal form.

No radical changes will be observable in the chains exhibited by the Diamond Chain and Manufacturing Co., of Indianapolis, Ind. Improvements in details have been made, however, and a decided advan-

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PALACE SHOW—SECOND GALLERY



tage over former production has been brought about by alterations in the quality and heat treatment of the steel from which the chains are made, giving an increase in tensile strength of from 25 to 100 per cent.

Baldwin detachable chains will be well shown by the Baldwin Chain & Mfg. Co., of Worcester, Mass., but the regular lines mark no differences from last year. The company is exhibiting a steering gear which is declared to be entirely novel and which has not been put on view before.

Motors ready to go into a car are to be met at almost every turn in the Palace balconies. Of the veterans in the field, the Western Motor Co., of Logansport, Ind., is to be considered a leader. Four of its "Rutenber" motors will be on view for the week, including a new 6-cylinder.

A 6-cylinder, 2-cycle motor is being put on exhibition by the Leather Tire Goods Co., of Newton Upper Falls, Mass. The motor operates with a single carburetter and exhausts into one muffler. It has no valves and only thirteen moving parts. The makers say that it can be throttled down to as low as 80 r.p.m. without backfiring or missing. By a simple cut-out arrangement three cylinders alone can be used without entailing complications or negative work on the part of the idle cylinders, a possibility which is very promising for low speed work. Investigators are promised every opportunity to satisfy themselves as to whether the motor in actual practice can perform according to the representations.

A pot-pourri of small things, such as the famous Columbia lock nuts, copper asbestos gaskets, seamless flexible copper hose, pump pressure registers, etc., add a flavor to the accessory and parts mixture which the technical epicure enjoys.

AUTOMOBILE EXHIBITS.

Main Floor.

Acme Motor Car Co., Reading, Pa., 2—Acme gasolene cars.

American Motor Car Co., Indianapolis, Ind., 54—American gasolene cars.

Atlas Motor Car Co., Springfield, Mass., 9—Atlas 2-cycle gasolene cars.

Austin Automobile Co., Grand Rapids, Mich., 7—Austin gasolene cars.

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Brewster & Co., New York City, 4½ Delaunay Belleville gasolene cars.
Brush Runabout Co., Detroit, Mich., 32—Brush gasolene cars.
Buckeye Mfg. Co., Anderson, Ind., 35—Lambert gasolene cars.
C. G. V. Import Co., New York, 41—C. G. V. gasolene cars.
Cartercar Co., Pontiac, Mich., 14—Cartercar gasolene cars.
Chadwick Engineering Works, Pottstown, Pa., 33—Chadwick Great Six gasolene cars.
Dayton Motor Car Co., Dayton, O., 37—Stoddard-Dayton gasolene cars.
De Dietrich Import Co., New York, 39—De Dietrich gasolene cars.
De Dion Bouton Selling Branch, New York City, 49—De Dion gasolene cars.
Delahaye Import Co., New York City, 50—Delahaye gasolene cars.
De Luxe Motor Car Co., Detroit, Mich., 8—De Luxe gasolen cars.
Fiat Automobile Co., New York City, 42—Fiat gasolene cars.
Ford Motor Co., Detroit, Mich., 25—Ford gasolene cars.
Gaeth Automobile Co., Cleveland, O., 51—Gaeth gasolene cars.
Holsman Automobile Co., Chicago, Ill., 31—Holsman motor buggies.
Hol-Tan Co., New York City, 45—Lancia gasolene cars.
Hotchkiss Import Co., New York City, 44—Hotchkiss gasolene cars.
Isotta Import Co., New York City, 47—Isotta gasolene cars.
Jackson Automobile Co., Jackson, Mich., 36—Jackson gasolene cars.
Kiblinger, W. H., Co., Auburn, Ind., 56—Kiblinger motor buggies.
Lane Motor Vehicle Co., Poughkeepsie, N. Y., 52—Lane steam cars.
Marion Motor Car Co., Indianapolis, Ind., 5—Marion gasolene cars.
Maxwell-Briscoe Motor Co., Tarrytown, N. Y., 27 and 57—Maxwell gasolene cars.
Midland Motor Co., Moline, Ill., 30—Midland gasolene cars.
Mitchell Motor Car Co., Racine, Wis., 38—Mitchell gasolene cars.
Moline Automobile Co., East Moline, Ill., 15—Moline gasolene cars.
Moon Motor Car Co., St. Louis, Mo., 3—Moon gasolene cars.
Mora Motor Car Co., Newark, N. Y., 29—Mora gasolene cars.
National Motor Vehicle Co., Indianapolis, Ind., 28—National gasolene cars.
Nordyke & Marmon Co., Indianapolis, Ind., 4—Marmon gasolene cars.
Oakland Motor Car Co., Pontiac, Mich., 1—Oakland gasolene cars.
Overland Auto Co., Indianapolis, Ind., 6—Overland gasolene cars.
Owen Co., R. M., New York City, 26—Premier gasolene cars.
Palais De l'Automobile, New York City, 43—Imported gasolene cars.
Panhard & Levassor, New York City, 40—Panhard gasolene cars.
Pennsylvania Auto Motor Co., Bryn Mawr, Pa., 12—Pennsylvania gasolene cars.
Regal Motor Car Co., Detroit, Mich., 55—Regal gasolene cars.
Reo Motor Car Co., Lansing, Mich., 24—Reo gasolene cars.
Renault Freres Agency, New York City, 46—Renault gasolene cars.
Simplex Motor Car Co., Mishawaka, Ind, 34—Simplex gasolene cars.
Welch Motor Car Co., Pontiac, Mich, 16—Welch gasolene cars.
York Motor Car Co., York, Pa., 53—York Pullman gasolene cars.

First Gallery.

Anderson Carriage Co., Detroit, Mich., 207—Detroit electric cars.
American Motor Truck Co., Lockport, N. Y., 212—American gasolene trucks.
Benner Motor Car Co., New York City, 230—Benner gasolene cars.
Black Mfg. Co., Ft. Wayne, Ind., 220—Chicago motor buggies.
Bristol Engineering Co., New Britain, Conn., 218—Rockwell taxicabs.
Cameron Motor Co., Beverly, Mass., 204—Cameron gasolene cars.
Cleveland Autocab Co., Cleveland, O., 228—Taxicabs.
Coates-Goshen Automobile Co., Goshen, N. Y., 206—Gasolene cars.
Commercial Truck Co. of America, Philadelphia, Pa., 229—Electric trucks.
Grabowsky Power Wagon Co., Detroit, Mich., 219—Gasolene commercial trucks.
Gramm-Logan Motor Car Co., Bowling Green, O., 211—gasolene commercial trucks.
Gyroscope Automobile Co., New York City, 201—Gyroscope gasolene cars.
Hart-Kraft Motor Co., York, Pa.—Gasolene cars.
Interstate Automobile Co., Muncie, Ind., 203—Interstate gasolene cars.
Kissel Motor Car Co., Hartford, Wis., 223—Kisselkar gasolene cars.
Lansden Co., The, Newark, N. J., 210—Lansden electric cars.
McCue Co., The, Hartford, Cann., 226—Unfinished gasolene chassis.
Mack Bros. Motor Car Co., Allentown, Pa., 215—Manhattan gasolene truck.
Middleby Auto Co., Reading, Pa., 202—Middleby gasolene cars.
Omar Motor Co., Newark, N. Y., 209—Juvenile gasolene cars.
Pittsburg Motor Vehicle Co., Pittsburg, Pa., 217—Electric commercial vehicles.
Rapid Motor Vehicle Co., Pontiac, Mich., 213—Rapid gasolene trucks.
Reliable-Dayton Motor Car Co., Chicago, Ill., 200—Reliable-Dayton motor buggies.
Reliance Motor Truck Co., Detroit, Mich., 216—Reliance gasolene trucks.
Schacht Mfg. Co., Cincinnati, O., 224—Schacht motor buggies.
Speedwell Motor Car Co., Dayton O., 205—Speedwell gasolene cars.
Sultan Motor Co., Springfield, Mass., 227—Taxicabs.
Wayne Works, Richmond, Ind., 208—Richmond, Ind., 208—Richmond gasolene

ACCESSORY EXHIBITS.

First Gallery.

Ajax-Grieb Rubber Co., New York City, 172-F—Ajax tires.
American Ball Bearing Co., Cleveland, O., 123-O—Ball bearings.
American Electrical Novelty & Mfg. Co., 168-Q—Ever Ready Batteries, lamps and tire specialties.
Atwater-Kent Mfg. Works, Philadelphia, Pa., 144-R—Igniters and timers.
Atwood-Castle Co., Amesbury, Mass., 164-V—Lamps.
Autocoil Co., Jersey City, N. J., 140-R—Coils and ignition systems.
Auto Improvement Co., New York City, 169-Q—Self starting devices and motor specialties.
Badger Brass Mfg. Co., New York City and Kenosha, Wis., 116-J—Solar lamps and acetylene generators.
Baldwin Chain and Mfg. Co., Worcester, Mass., 152-S—Baldwin chains and recoil check.
Bowser & Co., S. F., Ft. Wayne, Ind., 120-N—Tanks, measuring pumps and gasolene storage systems.
Briscoe Mfg. Co., Detroit, Mich., 127-P—Radiators and fittings.
Brown-Lipe Gear Co., Syracuse, N. Y., 108-K—Transmissions, differential and steering gears.
Byrne, Kingston & Co., Kokomo, Ind., 154-T—Kingston carburetters.
Coes Wrench Co., Worcester, Mass., 159½-V—Adjustable wrenches.
Columbia Nut and Bolt Co., Bridgeport, Conn., 122-O—Lock nuts.
Connecticut Telephone and Electric Co., Meriden, Conn., 129-P—Spark coils, switches, and ignition specialties.
Consolidated Rubber Tire Co., New York City, 162-V—Tires.
Continental Caoutchouc Co., New York City, 170-F—Continental tires.
Cowles & Co., C., New Haven, Conn., 149-S—Accessories.
Cramp & Sons Ship & Engine Co., Wm., Philadelphia, Pa., 139-R—Bronze castings and automobile parts.
Diamond Chain and Mfg. Co., Indianapolis, Ind., 128-P—Axles, chains, transmissions, sprockets.
Diamond Rubber Co., Akron, O., 101-I—Diamond tires.
Dixon Crucible Co., Joseph, Jersey City, N. J., 183-B—Graphite and lubricants.
Dow Tire Co., New York City, 185-B—Dow tires.
Edmunds & Jones Mfg. Co., Detroit, Mich., 141-R—Lamps and specialties.
Electric Storage Battery Co., Philadelphia, Pa., 175-76-F—Accumulators.
Empire Automobile Tire Co., Trenton, N. J., 178-F—Empire tires.
Firestone Tire & Rubber Co., Akron, O., 113-L—Firestone tires.
Fisk Rubber Co., Chicopee Falls, Mass., 117-J—Fisk tires.
G & J Tire Co., Indianapolis, Ind., 105-K—G & J tires.
Gabriel Horn Mfg. Co., Cleveland, O., 163-V—Gabriel exhaust horns.
Gemmer Mfg. Co., Detroit, Mich., 171-F—Steering gears and parts.
Gilbert Mfg. Co., New Haven, Conn., 158-V—Tires, jackets, lamps, covers, and rubber cloth specialties.
Goodrich Co., B. F., Akron, O., 119-H—Goodrich tires.
Goodyear Tire & Rubber Co., Akron, O., 109-M—Goodrich tires.
Gray & Davis, Amesbury, Mass., 104-K—Lamps.
Gray-Hawley Mfg. Co., Detroit, Mich., 150-S—Chime whistles and muffler cut-outs.
Ham Mfg. Co., C. T., Rochester, N. Y., 166-U—Lamps.
Harris Oil Co., A. W., Providence, R. I., 126-P—Lubricants.
Hartford Rubber Works, Co., Hartford, Conn., 115-J—Hartford Tires.
Hartford Suspension Co., Jersey City, N. J., 135-S—Truffault-Hartford shock absorbers.
Heinze Electric Co., Lowell, Mass., 132-P—Coils and ignition equipment.
Herz&Co., New York City, 151-S—Timers, plugs and ignition specialties.
Hess-Bright Mfg. Co., Philadelphia, Pa., 191-B—Annular ball bearings.
Hoffecker Co., The, Boston, Mass., 184-B—Speedometers.
Hyatt Roller Bearing Co., Harrison, N. J., 102-K—Roller bearings.
Jones Speedometer, New York City, 160-V—Speedometers, annunciators, odometers and specialties.
Kokomo Electric Co., Kokomo, Ind., 154½-T—Ignition specialties.
Leather Tire Goods Co., Newton Upper Falls, Mass., 187-B—Non-skid covers and leather inner tubes.
Light Mfg. & Foundry Co., Pottstown, Pa., 148-S—Aluminum parts and castings.
McCord Mfg. Co., Chicago, Ill., 181-B—Radiators.
Mezger, C. A., New York City, 142-R—"Soot-proof" spark plugs.
Michelin Tire Co., Milltown, N. J., 190-B—Michelin tires.

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Miller, Charles E., New York City, 225-C—Brampton chains, supplies and accessories.
Morgan & Wright, Detroit, Mich., 121-O—Morgan & Wright tires.
Mosler & Co., A. R., New York City, 159-V—Spark plugs.
Motsinger Device Mfg. Co., Pendleton, Ind., 157-V—Ignition systems.
Motz Clincher Tire and Rubber Co., Akron, O., 161-V—Clincher tires.
National Battery Co., Buffalo, N. Y., 112-L—Accumulators.
National Carbon Co., New York City, 157-R—Dry batteries.
National Coil Co., Lansing, Mich., 179-F—Spark coils.
Newmastic Tire Co., New York City, 214-G—Tire filling compound.
N. Y. & N. J. Lubricant Co., New York City, 131-P—Lubricants.
Oliver Mfg. Co., Chicago, Ill., 103-K—Jacks and accessories.
Pantasote Co., New York City, 189-B—Top and upholstering materials.
Pennsylvania Rubber Co., Jeannette, Pa., 133-S—Pennsylvania tires.
Pittsfield Spark Coil Co., Dalton, Mass., 180-B—Ignition systems.
Randall-Faichney Co., Boston, Mass., 156-W—Oil guns.
Rands Mfg. Co., Detroit, Mich., 125-P—Tops and accessories.
Remy Electric Co., Anderson, Ind., 186-B—Magnetos.
Republic Rubber Co., Youngstown, O., 188-B—Tires.
Sager Co., J. H., Rochester, N. Y., 145-R—Supplementary springs.
Shaler Co., C. A., Waupum, Wis., 153-T—Electric vulcanizers.
Shelby Steel Tube Co., Pittsburg, Pa., 118-J—Cold drawn steel tubing.
Smith Co., A. O., Milwaukee, Wis., 134-S—Gears and parts.
Spicer Universal Joint Mfg. Co., Plainfield, N. J., 130-P—Universal joints.
Splitdorf, C. F., New York City, 107-K—Timers, distributers, coils and ignition specialties.
Sprague Umbrella Co., Norwalk, O., 167-U—Tops and wind shields.
Standard Roller Bearing Co., Philadelphia, Pa., 155-W—Roller bearings.
Standard Welding Co., Cleveland, O., 124-O.—Tubing and electrically welded parts.
Stewart & Clark Mfg. Co., Chicago, Ill., 143-R—Speed indicators.
Swinehart Clincher Tire & Rubber Co., Akron, O., 137-S—Swinehart tires.
Timken Roller Bearing Axle Co., Canton, O. 110-M—Roller bearings and axles.
Veeder Mfg. Co., Hartford, Conn., 114-L—Odometers and speed indicators.
Warner Gear Co., Muncie, Ind., 138-R—Gears and parts.
Warner Instrument Co., Beloit, Wis., 136-S—Speed indicators and odometers.
Weed Chain Tire Grip Co., New York City, 177-F—Non-skid tire chains.
Westchester Appliance Co., Yonkers, N. Y., 173-F—Batteries and coils.
Wheeler, F. H., Indianapolis Ind., 165-V—Shebler carburetters.
Whitney Mfg. Co., Hartford, Conn., 106-K—Whitney chains and keying systems.
Witherbee Igniter Co., New York City, 146-R—Witherbee storage batteries and Wico ignition specialties.
American Metal Hose Co., New York City, 329½-C—Metal specialties.

Second Gallery.

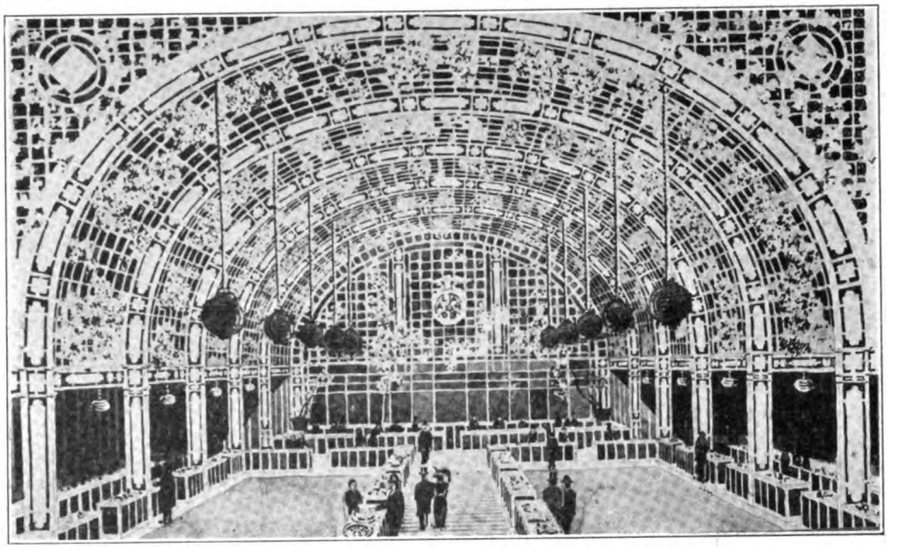
Alexander & Co., H. T., New York City, 317-B—Lubricants.
Allen Auto Specialty Co., New York City, 363-F—Tire jackets and specialties.
Allen Fire Dept., Supply Co., New York City, 433-T—Fire appliances.
American Thermos Bottle Co., New York City, 308-A—Thermos bottles.
American Thermo Ware Co., New York City, 337-C—Goggles, hydrometers.
Anderson Forge Machine Co., Detroit, Mich., 339-C—Crankshafts, gears.
Automobile Supply Mfg. Co., Brooklyn, N. Y., 357-E—Horns, tubing and brass specialties.
Auto Tire Inflating Co., Brooklyn, N. Y., 436-J—Tire pumps.
Austro-American Separator Co., Cleveland, O., 362-E—Gasolene funnels.
Bosch Magneto Co., Robt., New York City, 348-G—Ignition systems.
Bretz Co., J. S., New York City, 324-C—Ball bearings and high tension magnetos.
Briggs, Wm. M., Brooklyn, N. Y., 404-J—Batteries.
Brown Co., The, Syracuse, N. Y., 333-C—Gauges and tools.
Brown Mfg. Co., John W., Columbus, O., 327-C—Lamps.
Brownell Motor Co., F. A., Rochester, N. Y., 432-T—Gasolene motors.
Buda Foundry & Mfg. Co., Chicago, Ill., 332-C—Jacks.
Bunnell & Co., J. H., New York City, 435-J—Batteries.
Burnett Compound Spring, Incorporated, Newark, N. J., 331-C—Suspension springs.
Burrowes Co., E. T., Portland, Me., 309-A—Wind shields and emergency wheels.
Brandenburg & Co., New York City, 346-G—Coils and ignition specialties.
Comptoir d'Innovation Pour Automobiles, Paris, 374-H—Tire inflators and French specialties.
Dayton Rubber Mfg. Co., Dayton, O., 316-B—Airless tires.
Downing, Charles J., New York City, 343-C—Supplies.
Driggs-Seabury Ordnance Corporation, Sharon, Pa., 360-E—Crank shafts and frames.
Duffy Grease Co., New York City, 431-J—Lubricants.
Eastern Carbon Works, Jersey City, N. J., 338-C—Dry cells.
Elite Mfg. Co., Ashland, O., 326-C—Jacks and pumps.
Ennis Rubber Mfg. Co., Newark, N. J., 321-D—Tires.
Empire Auto Top Co., New York City, 313-B—Tops.
Excelsior Storage Battery Co., New York City, 325-C—Accumulators.
F. R. V. Auto Parts Co., New York City, 358-F—Shock absorbers and differential clutches.
Flentje, Ernest, Cambridge, Mass., 334-C—Shock preventers.
Federal Mfg. Co., Lowell, Mass., 367-F—"Rex" batteries.
Geiszler Bros., New York City, 307-A—Batteries.
Garage Equipment Co., Milwaukee, Wis., 305-A—Specialties.
General Storage Battery Co., New York City, 301-A—Batteries.
Gloversville Auto Glove Co., Gloversville, N. Y., 377-H—Gloves.
Guaranty Faultless Auto Tube Co., 378-H—Tubes.
Healy Leather Tire Co., New York City, 349-G—Healy leather tires.
Havoline Oil Co., New York City, 408-J—Lubricants.
Hill Mfg. Co., Buffalo, N. Y., 323-D—Oilers.
High Wheel Auto Parts Co., Muncie, Ind., 352-G—Parts for motor buggies.
Hydraulic Oil Storage & Distributing Co., Detroit, Mich., 315-B—Tanks, "Snells" storage systems.
Jeffrey-Dewitt Co., Newark, N. J., 366-F—Spark plugs.
Johnson & Co., Isaac G., Spuyten Duyvil, N. Y., 340-C—Forgings and castings.
Keystone Lubricating Co., Philadelphia, Pa., 320-D—Lubricants.
Lavalette & Co., New York City, 370-F—Magnetos.
Lutz-Lockwood Mfg. Co., New York City, 353-G—
Long Island Auto Supply Mfg. Co., Brooklyn, N. Y., 328-C—Supplies.
Merchant & Evans Co., Philadelphia, Pa., 341-C—Multiple disc clutches and automobile fittings.
Monitor Mfg. Co., Boston, Mass., 401-J—Timers and distributors.
Miller & Sons, Wm. P., Long Island City, N. Y., 342-C—Lubricants.
Metal Stamping Co., New York City, 314-B—Radiators.
Marko Storage Battery Co., Brooklyn, N. Y., 430-J—Batteries.
Myers, J. L. & A. J., New York City, 244-C—Carburetters.
Nathan Novelty Mfg. Co., New York City, 359-E—Tire covers and cases.
National Auto Top Co., New York City, 351-G—Tops.
New Departure Mfg. Co., Bristol, Conn., 407-J—Ball bearings.
New York Coil Co., New York City, 434-J—Spark coils.
Noonan Tool & Machine Works, A. S., Rome, N. Y., 405-J—Tools.
Philadelphia Timer & Machine Co., Philadelphia, Pa., 354-G—Timers.
Perfection Wrench Co., Port Chester, N. Y., 403-J—Wrenches and tools.
Pneu l'Electric Co., New York City, 345-G—Tires.
Polson, W. F., Buffalo, N. Y., 303-A—Accessories.
Quincy-Manchester-Sargent Co., Plainfield, N. J., 335-C—Auto Wrenches.
R. I. V. Co., Inc., New York City, 373-F—Annular ball bearings.
Reeves & Son, Paul, Philadelphia, Pa., 356—Bearings, castings.
Royal Equipment Co., Bridgeport, Conn., 330-C—Brake lining materials.
Rubly Mfg. Co., Tuckahoe, N. Y., 437-J—
Rushmore Dynamo Works, Plainfield, N. J., 347-G—Acetylene lamps and generators.
Safety Device Co., Indianapolis, Ind. 368-F—Electric sundries.
Salman & Co., John A., Boston, Mass., 402-J—
Seamless Rubber Co., New Haven, Conn., 302-A—Rubber goods.
Shore Instrument & Mfg. Co., New York City, 406-J—
Sireno Co., New York City, 329-C—Electric horns.
Smith Mfg. Co., I. I., New York City, 376-H—
Snell, Irving, Little Falls, N. Y., 365-F—Tanks, gasolene storage systems.
Spare Motor Wheel of America, Ltd., Chicago, Ill., 311-A—Stepney spare wheels.
Standard Leather Washer Mfg. Co., Newark, N. J., 322-D—Leather washers.
Stanley & Patterson, New York City, 371-F—Batteries and tools.
Stromberg Motor Device Co., Chicago, Ill., 304-A—Carburetters.
Troy Carriage Sun Shade Co., Troy, O., 350-G—Tops.
Travers Blow-out Patch Co., New York City, 336-C—Tire repair outfit.
U. S. McAdamite Metal Co., Brooklyn, N. Y., 462-L—Bronze, brass and aluminum castings.
Union Battery Co., Belleville, N. J., 409-J—Batteries.
Vanguard Mfg. Co., Joliet, Ill., 364-F—
Wetherill Finished Casting Co., Philadelphia, Pa., 369-F—Castings.
Wilkinson Co., John S., Newburgh, N. Y., 362½-E—
Zeglin Bullet-proof Cloth Co., Chicago, Ill., 306-A—Non-puncturable tires and fabrics.

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WHO WILL SHOW AT THE GARDEN

List of Exhibitors Numbers 280—Where Cars Will be Staged—Distribution of the Other Departments.

Showing a total of 294 displays, the list of exhibitors at the show of the Association of Licensed Automobile Manufacturers, which is to open in Madison Square Garden on Saturday, January 16th, has just been announced. Of individual exhibitors, manufacturers and dealers, there will be 280, the difference being caused by deductions for stands devoted to publications, and for the several manufacturers of cars who will show vehicles on more than one stand; 26 exhibitors of motorcycles, and 214 exhibitors of parts, accessories and sundries. The complete exhibitors' list, together with the general location of the displays, is as follows:



DECORATIVE SCHEME OF CONCERT HALL FOR THE GARDEN SHOW

will stage displays in more than one of the three main departments to be devoted to the exhibition of cars, comprising the gasolene pleasure vehicles, electrics and the commercial types.

As in former years, the main floor and elevated platform at the sides of the great arena will be devoted to the purposes of the automobile manufacturers who are producers of complete, gasolene-driven vehicles. In the restaurant in the Madison avenue end of the Garden, the displays of electric vehicles will be staged. The basement will be divided between the makers exhibiting commercial vehicles of all motive powers, the manufacturers of motorcycles, and a number of accessory exhibitors. The upper regions of the Garden, of course, will be given over wholly to the displays of parts and accessories. Space allotments to exhibitors of this class include locations in the Concert Hall, with its novel scheme of decoration in which the setting of the exhibits will be under a giant trellis covered with vines and illuminated by concealed incandescent lamps.

The roster of the show reveals 40 exhibitors of complete cars, seven of whom

Main Floor.

Knox Automobile Co.
Matheson Motor Car Co.
Elmore Mfg. Co.
Cadillac Motor Car Co.
Pope Motor Car Co.
Royal Motor Car Co.
Autocar Co.
Everitt-Metzger-Flanders Co.
Corbin Motor Veh. Corp.
Studebaker Automobile Co.
Electric Vehicle Co.
F. B. Stearns Co.
Packard Motor Car Co.
Geo. N. Pierce Co.
E. R. Thomas Motor Co.
Chalmers-Detroit Motor Co.
H. H. Franklin Mfg. Co.
Locomobile Co. of America.
Pope Mfg. Co.
Winton Motor Carriage Co.
Stevens-Duryea Co.
Peerless Motor Car Co.
Lozier Motor Co.

Elevated Platform.

Selden Motor Vehicle Co.
Haynes Automobile Co.
Simplex Automobile Co.
Hewitt Motor Co.
Walter Automobile Co.
Woods Motor Vehicle Co.
The White Co.
Apperson Bros. Automobile Co.

Exhibition Hall, Madison Avenue Front.

The Waverley Co.
The Electric Vehicle Co.
The Rauch & Lang Carriage Co.
S. R. Bailey & Co., Inc.
The Anderson Carriage Co.
Babcock Electric Carriage Co.
Studebaker Automobile Co.
Baker Motor Vehicle Co.

Basement, Commercial Vehicle Department.

Knox Automobile Co.
General Vehicle Co.
Champion Wagon Co.
H. H. Franklin Mfg. Co.
Studebaker Automobile Co.
E. R. Thomas Motor Co.
Alden Sampson, 2d.
Hewitt Motor Co.

Elevated Platform, Accessories.

The B. F. Goodrich Co.
The Diamond Rubber Co.
C. F. Splitdorf.
The Goodyear Tire & Rubber Co.
Shelby Steel Tube Co.
The Brown-Lipe Gear Co.
G & J Tire Co.
Briscoe Mfg. Co.
Gilbert Mfg. Co.
Automobile Improvement Co.
Auto Improvement Co.
Vacuum Oil Co.
Herz & Co.
S. F. Bowser & Co., Inc.
Gray & Davis
The Veeder Mfg. Co.
R. E. Dietz Co.
Atwater-Kent Mfg. Wks.
Baldwin Chain Mfg. Co.
N. Y. & N. J. Lubricant Co.
Warner Instrument Co.
Light Mfg. & Fdy. Co.
Empire Automobile Tire Co.
The Autocoil Co.
The Swinehart Clincher T. & R. Co.
Remy Electric Co.
Dow Tire Co.
Jones Speedometer.
Conn. Tel. & Elec. Co.
Morgan & Wright.
Continental Caoutchouc Co.
Spicer Universal Joint Mfg. Co.
J. H. Sager Co.
The R. E. Hardy Co.
Ajax-Grieb Rubber Co.
Weed Chain Tire Grip Co.
Consolidated Rubber Tire Co.
F. H. Wheeler.
Witherbee Igniter Co.
The Republic Rubber Co.
The Duff Mfg. Co.
The Chandler Co., Inc.
Michelin Tire Co.
Leather Tire Goods Co.
Adam Cooks Sons.
Avery Portable Lighting Co.
Fox Metallic Tire Belt Co.
The Globe Machine & Stamp Co.
Janney-Steinmetz & Co.
Firestone Tire & Rubber Co.
Oliver Mfg. Co.
The Timken Roller Bearing Axle Co.
Hartford Suspension Co.
Penn. Rubber Co.
Manufacturers Fdy. Co.
Motsinger Device Mfg. Co.
Atwood Castle Co.
Byrne-Kingston & Co.
The Wm. Cramp & Sons Ship & Engine Bldg. Co.
A. W. Harris Oil Co.
Brennan Mfg. Co.
The Warner Gear Co.
Phineas Jones & Co.
The Standard Welding Co.
The American Ball-Bearing Co.
The Badger Brass Mfg. Co.
The Fisk Rubber Co.
Diamond Chain & Mfg. Co.
Pittsfield Spark Coil Co.
Rose Mfg. Co.
Whitney Mfg. Co.
The Hartford Rubber Wks. Co.
A. R. Mosler & Co.
Gabriel Horn Mfg. Co.
Joseph Dixon Crucible Co.
Heinze Elec. Co.
C. T. Ham Mfg. Co.
Valentine & Co.
Hyatt Roler Bearing Co.

Balcony.

McCord Mfg. Co.
Geo. A. Haws.
C. A. Shaler Co.
Wm. C. Robinson & Sons Co.
Cook's Standard Tool Co.
A. C. Smith Co.
Eastern Carbon Wks.
Allen Auto Specialty Co.
Jeffery-Dewitt Co.
Morrison-Ricker Mfg. Co.
N. Y. Sporting Goods Co.
Metal Stamping Co.
Hydraulic Oil Storage Co.
Honewell Bros.
I. S. Bretz Co.
Pierson Motor Supply Co.
Havoline Oil Co.
Apple Elec. Co.
Isaac G. Johnson & Co.
The Auto Pump Co.
The Rushmore Dynamo Wks.
English & Mersick Co.
E. M. Benford.
K. W. Ignition Co.
Austro-American Separator Co.
Wm. R. Winn.
N. Y. Coil Co.
Voorhees Rubber Mfg. Co.
American Thermos Bottle Co. of N. Y.
L. J. Mutty Co.
The A.-Z. Co.
High Frequency Ignition Coil Co.
H. H. Franklin Mfg. Co.
Keystone Lubricating Co.
Leon Mann Co.
P. Rielly & Son.
Philadelphia Timer & Machine Co.
Tarman & Baker.
R. I. V. Co.
Atlas Rubber Co.
Champion Ignition Co.
Burnet Compound Spring, Inc.
Buda Fdy. & Mfg. Co.
Chas E. Miller.
Trenton Rubber Mfg. Co.
O. W. Young.
Anderson Forge & Machine Co.

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M. H. Cormack & Co.
Geiszler Bros.
Wm. P. Miller Sons.

Concert Hall.

The Sprague Umbrella Co.
L. C. Chase & Co.
Noera Mfg. Co.
Columbia Lubricants Co. of N. Y.
The Hess-Bright Mfg. Co.
National Carbon Co.
The Lunkenheimer Co.
National Battery Co.
The Hoffecker Co.
Westchester Appliance Co.
Standard Roller Bearing Co.
The Randall-Faichney Co.
The Edmund & Jones Mfg. Co.
The Pantasote Co.
Elec. Storage Bat. Co.
Manhattan Screw & Stamping Wks.
Springfield Metal Body Co.
Gemmer Mfg. Co.
C. Cowles & Co.
Coes Wrench Co.
Never Miss Spark Plug Co.
Stewart & Clark Mfg. Co.
C. A. Mezger, Inc.
American & British Mfg. Co.
Rands Mfg. Co.

Second Tier Boxes.

Bosch Magneto Co.
Columbia Nut & Bolt Co., Inc.
H. A. Allers & Co.
Travers Blowout Patch Co.
Paul S. Reeves & Son.
The Seamless Rubber Co.
Sampson Leather Tire Co.
Davis-Bournonville Co.
The Perfection Wrench Co.
Erie Foundry Co.
Ernst Flentje.
The Sireno Co.
Duffy Grease Co.
Coloris Mfg. Co.
Union Battery Co.
Chicago Wind Shield Co.

Third Tier Boxes.

Vesta Accumulator Co.
The Mica Core Mfg. Co.
Nadall Mfg. Co.
Elite Mfg. Co.
Auto-Tire Inflater Co.
Amer. Elec. Fuse Co.
John Lucas & Co.
H. & C. Bottle Mfg. Co.
A. O. Brictson.
The Standard Leather Washer Mfg. Co.
The "Lux" Auto Lamp Mfg. Co.
Quincy, Manchester, Sargent Co.
Marko Storage Battery Co.
Patterson, Gottfried & Hunter.
Healy Leather Tire Co.
C. J. Downing.
Kitsee Storage Battery Co.
Albert Champion Co.
E. T. Burrows Co.
Stromberg Motor Devices Co.
Julius King Optical Co.
Livingston Radiator Co.
The White & Bagley Co.
The Vehicle Apron & Hood Co.
Hill Dryer Co.
Amer. Thermo-Ware Co.
Automobile Supply Mfg. Co.
Lavelette & Co.
Perfection Spring Co.
The New Departure Mfg. Co.
Stanley & Patterson.
Vanguard Mfg. Co.
Merchant & Evans Co.
Motz Clincher T. & R. Co.
The Post & Lester Co.

Basement, Motorcycle Department.

Merkel-Light Motor Co.
The Consolidated Mfg. Co.
Excelsior Supply Co.
N. S. U. Motor Co.
American Motor Co.
Hendee Mfg. Co.
F. A. Baker & Co.
The Pierce Cycle Co.
Bicycling World Co.
Ovington Motor Co.
Reading Standard Co.
The Kornecker Motor Mfg. Co.
Harley-Davidson Motor Co.
The Auto-Bi Co.
Thiem Mfg. Co.
The Motor Car Equipment Co.
Walton Motor Co., Inc.
H. & F. Mesinger Mfg. Co.
G. H. Curtiss Mfg. Co.
Eclipse Machine Co.
The New Era Gas Engine Co.
Reliance Motor Cycle Co.
Crouch Motor Co.
The Persons Mfg. Co.
Aurora Automatic Machine Co.

Basement, Accessories.

G. L. Economizer Co.
Comptoir D'Innovations Pour Auto.
Nathan Novelty Mfg. Co.
Noonan Tool & Machine Wks.
Pratt & Whitney Co.
Philadelphia Storage Battery Co.
The Troy Car. Sun Shade Co.
The Garvin Machine Co.
Faultless Auto Tube Co.

Program for the Engineers' Meeting.

As already announced, the fourth annual meeting of the Society of Automobile Engineers will convene at the Automobile Club of America on Tuesday morning, January 5th. The complete program shows that the entire forenoon will be devoted to making tests with various cars on the club dynamometer, under the supervision of Henry Souther, head of the technical committee of the club. Following this there will be the usual business meeting and a technical session during the afternoon, the subjects to be discussed being the "Economics of Weight Reduction," by F. D. Howe; "The Factor of Reliability in Ignition Apparatus," by A. Atwater Kent; "Requirements of Automobile Brake Construction," by Thos. J. Fay and Lawrence Whitcomb. Immediately following the readings the annual dinner will be held. After the dinner the meeting will adjourn to Tuesday, January 19.

On the date of adjournment a number of motor car tests will be made on the club's dynamometer, while in the afternoon papers on the following subjects will be read: "An Improved Type of Compression Coupling," by W. S. Noyes; "Standardizing Automobile Motor Bearings," by S. P. Wetherill, Jr.; "Some practical Considerations in Autogenous Welding," by Henry Cave; "Continuous Form of Engine Indicator," by S W. Rushmore and H. L. Towle. The afternoon meeting at which the papers will be presented will be held at the Engineering Societies Building, and the annual dinner at the Engineers' Club.

Studebaker to Have Big Individual Show.

During show time New York City will be rich in individual, independent shows conducted by various makers and agents. The latest announcement in this line is that of the Studebaker Automobile Co., which will devote the entire ground floor of the big Studebaker building at Broadway, Seventh Avenue and Forty-eighth street to a display of the various type of motor cars and vehicles made and sold by the company. The exhibit, in its variety, will be the largest ever assembled by an individual firm, since it will include gasolene cars from small runabouts to large limousines, a full line of electric pleasure vehicles, and electric commercial vehicles of types ranging from light delivery wagons to the heaviest trucks. Free bus service will be provided visitors to and from the Palace and Garden shows.

Motor Vehicles in the British Isles.

Statistics compiled by the Royal Automobile Club of England show that in the United Kingdom there were registered, up to September 30, 1908, a total of 154.391 motor vehicles, divided as follows: Private cars in England and Wales, 63,240; trade vehicles, 11,172; public conveyances, 5,461; motorcycles, 57,472; total for England and Wales, 137,345. Private cars in Scotland, 5,231; trade vehicles, 810; public conveyances, 384; motorcycles, 4,482; total for Scotland, 10,907. Pleasure vehicles in Ireland, 2,910; trade vehicles, 122; public conveyances, 5,880; motorcycles, 3,072; total for Ireland, 6.139. The total of each class of vehicles in the United Kingdom are: Private cars, 71,381; trade vehicles, 12,104; public conveyances, 5,880; motorcycles, 65,-026.

America's Extensive Use of Automobiles.

It has been estimated that there are at present no less than 150,000 automobiles in use in America, and another estimate places the probable production of the forthcoming year at 75,000 new cars. On this basis, the parent industry is made to loom very large. But when it is considered that in the heydey of the carriage industry no less than 1,000,000 buggies a year were turned out during four consecutive seasons, it appears that the business of vehicle production enjoys possibilities which the automobile section of it has by no means begun to exhaust even yet.

Oregon Show Scheduled for March.

An automobile show for Portland, Ore., will be held next March, in the armory. Several of the Pacific Coast cities are planning shows and efforts are being made to provide for making a circuit which can use more elaborate decorative and attraction features than would the possible in any one of the cities undertaking to run a show wholly on its own account.

Buffalo to Hold February Show.

Buffalo's automobile show has been determined upon for the week beginning February 15, at Convention hall. The show will be held under the direct management of the Automobile Club of Buffalo, with the co-operation of the dealers and local manufacturers.

March Dates for Rochester Show.

The Rochester Automobile Dealers' Association, of Rochester, N. Y., has set its show for March 15 to 20, in Convention Hall. The executive committee of the show includes W. C. Barry, Jr., T. J. Northway, A. H. Zimbrich and George J. Bauer.

Kansas City Fixes Show Dates.

Dates for the automobile show at Kansas City, Mo., were chosen at the last meeting of the local dealers. The affair will be held at Convention hall, March 8 to 13.

Maine Show Opens February 22.

Portland, Me., will hold its show Feb will manage it. This will be the easternmost of all the local shows.

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Makers Explain Their Products' Salient Points

With scarcely an exception, the motor cars at present in the market possess sufficient potential mileage, or "go" in other words, to make them a paying investment to the owner. Their actual worth in terms of passenger miles per dollar of cost and maintenance outlay, however, varies widely according to the type of vehicle and the purpose for which it is designed as well as the manner of its use. Those who are intimately acquainted with the industry are sufficiently familiar with the characteristics of the various cars to be able to make a sound discrimination, should they be called upon to choose a machine for their own individual use. To those who are beyond the pale—the rank outsiders—the task is a far more difficult and entirely bewildering one.

The would-be purchaser of a car, who knows nothing of motor car construction, is forced to rely largely upon the statements of the manufacturers and their agents in making his selection. Brought face to face with these in the course of a canvass of the field, a surprising amount of confusion is engendered in his mind, and frequently a vague impression that whatever the individual merits of the different machines, the question of price aside, the efforts of most salesmen are based upon the use of a few stock recommendations which appear to apply to the entire trade with astonishing generality.

It is not that a car must be radically different from others of its general class in order to be particularly worthy of the buyer's consideration. Indeed, the opinion is held by some manufacturers that the era of the efficacy of "talking points" is past, and that those special levers no longer possess their former power of persuasion in inducing sales. It is not necessary that the machine shall be fabricated of rare materials, put together under extraordinary conditions of shop administration, nor that it shall be accompanied by unusual "inducements" in the shape of free equipment or guarantee. The real essence of the successful marketing of a car lies in the manner in which its adaptibility to the wants of the individual owner may be demonstrated, and—to a surprising degree—to the success of the salesman in presenting his arguments in a brief and forceful style calculated to penetrate the haze of uncertainty which surrounds the prospective customer as a result of interviews with other salesmen.

It has been observed with increasing frequency that the task of selling automobiles constantly is becoming more difficult. In other words, the idea is growing that the personal equation of the salesman is becoming a more potent factor in the administration of the sales department. This being admittedly so, it is interesting to make observation of the various weapons with which the modern motor car salesman arms himself, or, in other words, to compare the selling points exploited by the different manufacturers in disposing of their wares.

With this object the Motor World wrote to a number of well-known American manufacturers who are members of the American Motor Car Manufacturers' Association, asking this question: "Wherein and in exactly what details does your car differ from others? In endeavoring to make sales, upon what points do you lay the most stress?

From the score and more of replies, the following excerpts have been taken:

Maxwell-Briscoe Motor Co.—"The principal differences between our product and that of other manufacturers are, moderate price, all-around utility and reliability in exacting service. In endeavoring to make sales, we point to past performances, arguing that the Maxwell, a car of moderate price, performs the same service as the higher priced competitor, is operated more economically, not liable to disorders on account of its constructional advantages, such as three-point suspension, thermo-syphon cooling, multiple disc clutch, unit construction, etc."

Nordyke & Marmon Co.—"The Marmon differs from most other cars on the market in that it is entirely of our own design and entirely of our own construction. The motor differs from others in its oiling system and this is one of the points upon which we lay the most stress. The rear axle, transmission and brake system differs from others, possessing certain superior features and especially the feature of easy access to the parts. We lay claim to easy riding qualities, due to our system of full elliptic springs and method of suspension. We lay claim to a superior steering gear and connections; to high class body construction and finish."

Pennsylvania Auto Motor Co.—"'Pennsylvania' cars do not materially differ from any other high-grade car. We, of course, have proven and feel that a hemispherical or valve in the head engine has many advantages over the standard types of inverted 'T' or 'L' head engines, since we get the explosion directly over the pistons, and get an absolute utilization of all the gas contents. The arrangement of the valves and cages in the head permit of the easy removal of foreign matter on the pistons and in the combustion chambers, without disturbing any conections whatever. We lubricate all of our motors internally through a hollow crank, by means of a mechanically driven mechanical lubricator. We do not in any way depend upon splash lubrication. We, like many others, use nickel steel throughout, and annular bearings. We have proven again that the unit axle and transmission system is not only practical but desirable. We also lay particular stress on the fact that we have in our factory as complete a line of modern jigs as there is in any factory in the world. This is interchangeability; and another very important thing, that there is not one part of the Pennsylvania car that is made on the piece-work plan. We have absolutely no piece-work in our factory, every man being on a salary."

Mitchell Motor Car Co.—"While there are, of course, numerous differences between our machines and those of other make, still, we use no particular feature that is not common to a great number. In other words, everything about our car is of approved design and according to the best general practice. If there is any one thing that has created sales for us more than any other and because of which we would naturally place stress upon it in selling, it would be the fact that our cars are more stoutly built than the average make and have a reputation for standing up in rough country and under hard service and of delivering a great amount of mileage with very little care."

The Dayton Motor Car Co.—"One point which is always emphasized, is the very large percentage of the entire make-up of the car being made in our own factory, under our direct supervision. Having direct supervision over the raw materials and all structural labor, 99 per cent. of the complete car, we believe is largely responsible for the success of the complete product. In taking under consideration the structural features of the Stoddard-Dayton, it must be borne in mind that all of these features as to principle, material and workmanship are identical in the three principal models, the only difference in these respective models being in the dimensions."

Points further enumerated are: Valve-in-the-head construction of motors, offset crank shafts and automatic, internal lubrication; the use of roller, thrust load bearings throughout the car in all transmission and axle mountings.

Brush Runabout Co.—"So far as we can inform ourselves, the Brush has the only single cylinder vertical engine operating in an automobile in the United States. The transmission is of the planetary type and

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the only one in which multiple disc clutches are used on all three speeds. In making sales, reference is made to the transmission which is self-adjusting, having few wearing parts; also its simplicity, the light weight of the car (900 pounds), the ratio in which the car is geared, making it almost impossible to stall the engine on any grade or in traversing any road."

York Motor Car Co., Inc.—"Our cars differ in construction in many ways. The cylinders are cast separate, with wide ports or openings on each side, and they are put against each other with a light paper packing between, and held by bolts. This gives the advantage of a short engine—the same as the bloc system—each cylinder can be inspected individually, it is only necessary to remove one cylinder in case of replacement, and water pipe connections between the cylinders are eliminated, as the water enters at the rear and leaves at the front. Our integral oiling system in the base of the crank case is operated by a sliding vane pump, of which our point is that the oil level is controlled by an eccentric valve on the inside of the base with the stem running through to the outside and carrying a hand or pointer which registers on a dial by which more or less oil may be secured as desired. We believe this is the only integral oiling system, with practically micrometer adjustment.

"We also lay particular stress on the parts used in Pullman cars, as we do our own manufacturing in our plant, with the exception of the axles, and other articles as lamps, rims, etc. By making our complete car in our own factory, including our own wheels and body, we are able to give a better value than would be otherwise possible in a high grade car."

National Motor Vehicle Co.—"We use a double ignition system on all of our cars, of which the wiring is a feature. We use a crank case oiler of our own design, which is exceptionally efficient and which we think is entirely original with ourselves. We use ball-bearings on the crank shaft and cam shafts of all our cars and have been strong advocates of that type of construction for several seasons past. Our company was one of the very first to exploit that type of construction in this country. The rear system of National cars is another special feature. In general design it is not unlike several others, but the construction of the rear axle housing is such that all of the parts can be inspected, adjusted or removed without disturbing the wheels and without tearing down any other parts of the car. We use sheet aluminum or cast aluminum bodies on all of our cars and either type of construction is a feature as compared with ordinary sheet metal bodies."

A brief summary of the points upon which special stress is laid by other manufacturers follows:

Jackson Automobile Co.—Thermo-syphon water circulation, full-elliptic spring suspensions on all models, brake rods carried inside the frame, unit-power plant design with enclosed fly wheel and on the latest model overhead cam shaft, inclined valves placed in the cylinder heads, adjustable timing gears, special design of clutch linkage, and in a second new model standard magneto ignition.

Inter-State Automobile Co.—The use of a torsion tube which eliminates the use of all struts or torsion rods, complete double ignition with two sets of plugs, unusually large tires, and a complete equipment of accessories, calculated to relieve the retail buyer of any embarrassment in connection with the outfitting of his car.

American Motor Car Sales Co. (Overland)—Silent motor, exclusive design of planetary transmission enclosed completely and mounted as a unit with the live rear axle, absence of side levers and control of the speeds by means of two pedals, clutch adjustment without the use of tools other than a screwdriver, high tension magneto, complete equipment. In larger, four and six-cylinder models, special ball bearing change gear, and, in the latter, low price.

Oakland Motor Car Co.—Special design of two-cylinder vertical motor, with original balancing device and removable cylinder heads, thermo-syphon cooling, one pedal and one side lever in control system, small amount of attention required in connection with maintenance. On the new four-cylinder model, three-point suspension of motor, inclined alignment making lubrication effective as well as assuring straight line drive, epicyclic steering gear having slight differential action.

Reliable-Dayton Motor Car Co.—Direct application of the principles of ordinary motor car construction to the carriage type of vehicle, applied as requirements develop upon experimentation; absence of radical departures from commonly accepted practice, solid and enduring construction.

Ford Motor Co.—Vanadium steel employed in every part of the car, from lamp bracket to axle, magneto incorporated in engine design, block type motor with removable water jacketed cylinder heads, lower half of crank case made of pressed steel and extended to form seamless oil-tight housing and enclosing lower half of entire power plant, every bolt locked securely in place.

W. H. Kiblinger Co.—Air-cooled motor construction, with fan incorporated into fly wheel, special provision for cooling valve springs and preserving their temper, original method of chain adjustment, high road clearances, solid tires and light, graded, resilient springs, non-skidding advantages of high-wheel mounting, hill-climbing ability, general acessibility of mechanical parts.

Hart-Kraft Motor Co.—Exclusive use of unit power plant in 1,000-pound commercial car, all parts of mechanism accessible from driver's seat, simplicity of plant, assured reliability in service due to adoption of solid tires, improved ignition, simple mechanism and fool-proof construction.

The Bristol Engineering Co.—Interchangeability in any unit—that is to say, engine, transmission and rear axle constructions replaceable independently and readily—only two sizes of studs and nuts employed in assemblage, only two socket wrenches required in tool kit, hardening carried out in all small parts, left side control.

Most suggestive, as showing how it is possible to expand the complete selling platform from a single key-feature, was the reply received from the Atlas Motor Car Co., and embodying the radical claims which they make for their two-cycle engine. The name "Atlas perfected, two-cycle engine," is bracketed against the three claims for supremacy, that it is the "Simplest automobile engine built; the most flexible automobile engine built; and indestructible." Developments of these three claims explain that "No adjustment is necessary or possible, hence the easiest to care for"; that it "will throttle down lower and accelerate quicker than any other engine built, hence the easiest car built to handle"; and that "No engine parts replacements ever necessary, hence upkeep expense lowest of any automobile engine built. Will last longer than any other automobile engine and improves constantly by use instead of rapidly deteriorating after a few thousand miles use, like the four-cycle engine."

Investigating Radiator Efficiency.

By plotting curves from the results of an exhaustive series of tests, experimenters connected with the Bush Manufacturing Company, of Hartford, Conn., have obtained data concerning air cell and water space sizes in radiator practice calculated to show that it is desirable to make the air cells small and the water spaces thin, but the extension of the principle beyond a certain point results in a decrease of efficiency. The experiments made it clear that there is little to be gained by making the air cells smaller than one-fourth inch square, giving a one-sixteenth square inch area. Smaller than this, the air cells showed a lessened heat radiation in proportion to area.

The tests also included determinations of such points as air velocities at various car and fan speeds, the most efficient radiator thickness from front to back, the rate of water flow resulting from thermo-syphon effects, and the best practical proportions of air cell to water space sizes. The information thus obtained has been utilized in the construction of the Bush radiators which the company is now marketing. Vertical tubes with fins are employed, the tubes being flat and of small section. They are spaced three deep from front to back, while the rows of fins are separated by vertical strips, the fins being soldered to the strips to give strength. Many advantages are claimed for the vertical tube and fin type, particularly for a thermo-syphon system, since the water is given a free and unrestricted flow in a vertical line.

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From the standpoint of racing events, the past year has been a notable one. It produced new records for various distances, brought to light a number of conspicuous drivers hitherto unknown, revived the famous Vanderbilt Cup contest, and inaugurated the now celebrated Grand Prize event in addition to various other features of minor interest. In connection with the return of the Vanderbilt race, one of the most noteworthy achievements of the year was the completion of the first section of the Long Island Motor Parkway, a cement course which is destined to play an important part in future speed events in America. Handicapped at the start by business depression, during which time many manufacturers were forced to curtail expense as far as possible, the year 1908 nevertheless has had a goodly quota of events and its racing season ended in a brilliant flourish at Savannah.

New York-Paris Race Starts.

The first race of 1908, which started on January 12, proved in many respects the most momentous as well as the longest of the year. It was 22,000 miles in length, and in order to complete it, the contestants were carried clear around the world. The New York to Paris contest created wide international interest, inasmuch as it was such a stupendous undertaking and generally declared at the outset, to be practically impossible. Few people ever thought that some nine months later two of the six starters would actually reach the French capital. Six contestants set out in the dead of winter on this wild expedition: the Thomas, representing America; a German, Prothos, an Italian, Zust, and three contestants representing France—Sizaire et Naudin, Moto Bloc and De Dion. Of these, the three former eventually reached Paris.

Florida's Annual Sandfest.

The first of the season's speed contests at reasonable distances, was the annual Ormond Beach (Fla.) meet, held March 3-6, under the auspices of the Automobile Club of America. As a sporting carnival it was a weak end to a long diminuendo, the only redeeming feature being that a few world's records were broken. Lack of sufficient entries resulted in lack of interest, and as there were no really exciting brushes or close finishes at any time, enthusiasm was almost an unknown quantity. On the first day of the meet, the late Emanuel Cedrino, driving the Fiat "Cyclone," won the initial 100 miles event for the Minneapolis trophy, driving much of the race minus two tires, when he could not make tubes stay on his front rims. His time was 1:50:20, but he fell short of the record made by Walter Clifford-Earp in 1906 by 35 minutes.

The second race on the same day, 150 miles for stock cars, was won by Louis J. Bergdoll, the Philadelphian, in his Benz, his time being 2:40:53.

If the opening day was disappointing, the second day was equally so, when the 125 miles event for "gentlemen drivers," also was placed to the credit of Bergdoll.

Cedrino Establishes a Record.

Thursday, March 5, the third effort, produced the best race of the meet, when Cedrino, in the Fiat, established a record for 256 miles and won the Automobile Club of America's trophy. His time for the distance was 3:21:27⅗, an average of 77 miles per hour. R. G. Kelsey, in the Christie car, was second in this evnt, while Maurice Bernin, who experienced tire trouble, was third with the Renault. Bernin, however, on the final day of the meet, won the 100 miles match race against S. B. Stevens in the Fiat Cyclone, and broke the world's record for the distance. His time was 1:12::56⅕, as against the mark of 1:15:40⅗ made by Clifford-Earp in the Napier in 1906.

On this occasion also, a number of mile trials against time were made; the fastest being that of Cedrino, who slid over a mile in 35 seconds flat. While the record of 0:28⅗, made by Marriott in the Stanley steamer two years before, was not touched, nevertheless a most notable performance was given by David Bruce-Brown, an amateur, who broke the old amateur record of 0.39, held by Wm. K. Vanderbilt, by covering a mile in 0:35⅗. Bernin made the next best time with the Renault in 0.39⅕.

No sooner was the meet over, than the indefatigable W. J. Morgan, who has been concerned in many southern ventures, immediately started his Jacksonville-Miami race, a personally conducted affair, in which four or five cars started. A 10 horsepower Cadillac, driven by Dr. W. N. Stinson, won this 371 miles race, C. F. Wheeler's Peerless also arriving, after it had been rescued by the winner, when stuck in a swamp 70 miles from the nearest town.

Savannah's First Road Race.

Some of those who attended the beach meet stopped over on their northbound trip at Savannah, which made its first attempt at holding a road race a few days later, on Wednesday, March 18, and the day following. A fine, smooth 18 miles circuit had been prepared for the occasion, the road well oiled and a grandstand erected. Inasmuch as the coals of the A. A. A.-A. C. A. fire were slowly kindling, and as the Ormond meet had proved a failure in many respects, under the A. C. A.'s management, the officials of the Three A's were particularly anxious to make Savannah's initial attempt a success, and in so far as the management of the affair was concerned, they were well rewarded for their pains. The first day upon which the 180 miles race for stock runabouts was run, and also the race at the same distance between two six-cylinder machines, a Stearns and a Thomas, proved a big disappointment to Savannah, as well as its visitors.

In the former, Herbert Lytle, at the wheel of an Apperson car, won in 3:35:41, beating J. B. Lorimer in the Thomas-Detroit, by more than a lap. A third starter, Zengle, in a Pennsylvania, broke a rear axle after making the fastest circuit of the race, in 18:54. In the race between the "sixes," George Salzman, in the Thomas, finished a lone race; Leland in the Stearns, breaking a connecting rod when the race was but half finished.

When Strang Achieved Fame.

The Savannahians on the following day however, saw a rattling good race. It was upon this occasion that Lewis Strang mounted in an Isotta car, rose to prominence by winning the race of 20 laps, a distance of 342 miles, in 6 hours 21 minutes 30 seconds—an average speed of 53.83 miles an hour. Close on Strang's heels in this contest was Herbert Lytle in a 50 horsepower Apperson, while Malcolm Newstetter.

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Enthusiasm hit the top notch during this race, the Governor of the State, the Mayor of Savannah, and other distinguished guests, lending no little prestige to the occasion. Practically the entire city turned out to witness the contest and so satisfactory was the race generally that it was obvious that Savannah was at once encouraged to make a strong play for a still bigger race over its magnificent course.

Briarcliff and Its Sequel.

A little more than a month later, April 24, Strang won the Briarcliff road race in the same Isotta car. This contest, held on one of the most dangerous courses ever selected for a race, made up of a series of treacherous turns and choppy hills that were none too smooth, was a surprise to every one. Many well qualified to judge had predicted that accidents would be numerous and that in all probability more than one driver would come to a sad end. From start to finish, the contestants set up a pace that forced a race with death throughout the 259 miles, but the gods were kind and there were no fatalities or bad accidents. Strang's victory was clean-cut and decisive, especially notable in that he set out from fourth position, passed those ahead of him, took the lead early and was never headed. He sent the Italian car over the 8 laps in 5:14:13⅕, at an average speed of 48 miles an hour—a speed which astounded those who were familiar with the condition of the course. Emanuel Cedrino, in a Fiat, was second, while third and fourth places were captured by American drivers in American cars. Guy Vaughan, at the wheel of a Stearns, followed close upon Cedrino's heels, and Herbert Lytle, in the Apperson entry, was fourth. The Automobile Manufacturers' Committee, principally composed of Robert Lee Morrell and T. Francis Moore, who promoted the contest, were in difficulties from the very beginning in arranging things so that the contest could start. On the day before the race, State Engineer Skene demanded that the promoters put up $4,600 to go for road repairs necessitated by the race. Skene would not even take a bond on a reliable surety company, but insisted upon cash—and he got it. All that was ever returned to Morrell was a trifle over $500. A sequel to the incident is Morrell's suit against the State official, who, Morrell claims, had no right to exact the money.

Summer Contests and Tours.

Between Briarcliff time and the first of June, particularly on Decoration Day, there were numerous hill climbing contests, a couple of track meets, together with several short endurance and reliability runs, among them, the meet at Pimlico track on May 29, during practice for which Emanuel Cedrino met with the accident which caused his death. A 300 miles road race took place at Denver, Col., on May 30, and Linn Matthewson, the driver of the Thomas Forty entry won it, the bad road conditions being responsible for the slow average time of 38 miles per hour.

On June 5, the day before ground was broken in the construction of the Long Island Motor Parkway, a series of one mile speed trials took place at Jamaica, L. I. Twenty-six fast events were run off on the Hillside avenue course and road records at the mile and kilometer distances were shattered. The fastest performance of the afternoon, was that of Harry Kilpatrick in the Vanderbilt Cup Hotchkiss car. He scored a kilometer in 24⅗ seconds in the free-for-all, which was at a rate of 90 miles an hour, while his time for the mile was 0:38⅗—a rate of 93.3 miles. George Robertson, in the Fiat Cyclone, and numerous drivers in the stock car events, made creditable showings.

July 4 was celebrated with the usual number of local holiday events, track races taking place at Elkwood Park, Long Branch, N. J., Baltimore, Md., and other places throughout the country. The interest turned from racing toward the annual Glidden tour which started from Buffalo, N. Y., on July 9.

America Wins Race to Paris.

About a week after the tour ended, word was telegraphed from abroad that the Thomas car contestant in the New York-Paris race had reached the French capital on July 30, winning the great globe-circling contest by 26 days. Although it did not reach Paris first, it was declared the winner on a 30 days allowance for time lost in attempting to reach Asia via Alaska, a plan which had to be abandoned by the Thomas crew and which the other foreign contestants did not so much as venture upon. On Saturday, August 15, the victorious car reached New York once more and was given a most enthusiastic reception. Of the six original contestants in this race, only three ever reached Europe. The French Sizaire et Naudin retired after running only 100 miles two days after the start; the French Moto Bloc retired in Iowa after traveling 1,300 miles, while the third French entry, the De Dion got as far as Vladivostok, Siberia, before dropping out of sight. The German Prothos car, after having been rebuilt several times en route, succeeded in arriving at Paris first, four days ahead of the Thomas (then driven by George Schuster). Having been shipped by rail for a portion of the distance, the time allowance set the Prothos back to second place. Some weeks later, the Italian Zust entry arrived at the finish, after much difficulty.

Considerable interest was aroused over the Lowell, Mass., Labor Day road race, on September 7. Here it was that Lewis Strang scored his third triumph by piloting J. H. Tyson's Briarcliff Isotta to victory. In a field of seven starters, Strang took the lead in the very first lap and never relinquished it, driving the 24 laps, or 254 miles in 4 hours 42 minutes 35 seconds. Banking on Michelin tires, as he had done in his two previous victories at Savannah and Briarcliff, he had no tire trouble, a remarkable characteristic of his lucky driving in all three of these events. At Lowell, Strang beat his nearest competitor, H. F. Grant, in an American Locomotive, by more than 1½ hours. William Bourque, in a Knox, was third.

Two days previous to the Lowell event, a race meet took place at St. Paul, Minn., and Ralph De Palma's performance there was one that must not be overlooked. Driving the Fiat 'Cyclone" around the mile track in 51 seconds flat, he broke all world's records for the circular mile, lowering the 52 seconds mark held by Walter Christie and made on the same course.

The A. A. A. and A. C. A. War.

Around this time, the "flare-up" between the American Automobile Association and the Automobile Club of America was reaching serious proportions. How the failure of the former to recognize the Ostend rules in completing the arrangements for the forthcoming Vanderbilt race, how the club decided to hold a second and spite race under the international rules and especially for the foreign contingent, and how there came from the conflict the famous "treaty of peace" which gave to the A. C. A. the control of all "international" competitions, hardly need be recapitulated here. The organization of the Motor Racing Association, and its announcement that it was going to control local racing around New York City, and that it contemplated holding a 24 hours race at Brighton Beach, without asking a sanction of the A. A. A., caused a little flurry of excitement. The Motor Racing Association did hold its outlaw 24 hours race at Brighton on September 12, and Ralph Mulford and Harry Cobe alternating at the wheel of a Lozier car, won it. Then when, a few days later, the Three A's retired from the field and relinquished the control of international races to the A. C. A., the Motor Racing Association no longer wanted to play "outlaw," but desiring to run another 24 hours race on October 2 and 3, applied to the A. C. A. for an "international" sanction and got it.

It was in this twice-around-the-clock contest that George Robertson began his winning streak, when alternating with Frank Lescault at the wheel of a Simplex, he reeled off 1,177 miles, breaking all records for dirt tracks with a stock car. In this race the Lozier came in for second honors and the Thomas for third.

Opening of the Motor Parkway.

On Saturday, October 10, two big racing events occurred—the Long Island Sweepstakes, which served to open the new Motor Parkway, and the big road race in Fairmount Park, Philadelphia, under the Quaker City Motor Club's auspices. Herbert Lytle, in an Isotta, was the start of the

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Sweepstakes event; winning the principal race, 234.6 miles in 3.39:10. Strang, driving a Renault, was a close second. Events for the lighter cars in the four other classes were won respectively by H. Hughes (Allen-Kingston); W. H. Sharp (Sharp-Arrow); W. R. Burns (Chalmers-Detroit), and Hugh Easter (Buick). This race gave some idea of what was to be expected in the way of speed at the Vanderbilt Cup contest on the 24th .

At the Philadelphia 200 miles race, which was the wind-up of the annual Founders' Week celebration, George Robertson in a stock Locomobile, won the chief laurels and lifted the $2,000 prize cup, when he got over the 25 laps in 4:02:30. Cyrus Patschke in a six-cylinder Acme, gained second honors, and Ralph Mulford, the Lozier pilot, third. This race, which was remarkable inasmuch as it was held in Fairmount Park, was so successfully run that it is expected to become part of the annual celebration at that city in the future.

Vanderbilt Cup Race Revives.

Then came the Vanderbilt Cup contest on October 24, which had been awaited for two long years and in it Robertson, driving the 1906 Locomobile Vanderbilt racer, added the third big victory to his string. Robertson drove a fast and exciting race, covering the eleven lapped circuit, a distance of 258.06 miles in 4 hours, 48⅗ seconds. Lytle, in an Isotta, drove in second, but was disqualified a couple of months later on account of the car being over weight. Second place would undoubtedly have been awarded to James Florida in the second Locomobile, had the race not been officially called off before he crossed the tape after colliding with a touring car at the finish.

Wagner Wins the Grand Prize.

As the climax of 1908 racing, came what was beyond all doubt, the biggest contest of the year—the Grand Prize race at Savannah. The memories of this notable contest promoted by the Automobile Club of America and the Savannah Automobile Club, are still fresh in mind. The international light car curtain raiser of the Georgia event was an interesting race, Hilliard in the little Lancia "Lampo," proving the victor in the 196 miles flyer over the special 9.8 miles course in 3 hours 43 minutes 43 seconds. When on the following day, Wagner, in the Italian Fiat, fought out the struggle for the Grand Prize with Hemery in the Benz, and the former won by the small margin of 56⅗ seconds, the throngs who witnessed the victory and the millions who read about it that night, were satisfied that the closing contest of the racing year was a notable one. Wagner's time for the 400.02 miles was 6:10:31⅗, a rate of 65.1 miles per hour—remarkable in view of the several hundred turns encountered on the winding course. Nazzaro, in another Fiat, followed Hemery into third place; Hanriot, in a Benz, was fourth, and Hautvast, mounted in a Bayard-Clement, fifth. The only regretable feature of the race was that the American entrants could not have made a better showing. Of these, Seymour, in the Simplex, who finished eleventh, made the best time. The fastest lap of the contest was made by Ralph De Palma, the American driver of the third Fiat entry, who covered the second and seventh rounds of the 25.13 miles course in 21:36.

Many Local Racemeets.

Throughout the year the distribution of local events throughout the country has been more uniform than ever before, the middle and western sections getting fully as good a share of contests as the East. How much of this has been due to the tireless activities of the ubiquitous Barney Oldfield, who with Walter Christie and Charles Searles has overlooked all previous announcements of retirement and steadfastly turned his face toward the fleshpots that hang within the precincts of county fairs, cannot be told. His movements have been often too rapid and abrupt to be overtaken by the pen of the chronicler. Be that as it may, it is perhaps significant of the widespread interest in automobile contests and of the tendencies in various localities that the last track meet of 1908 should have been held at Tanforan Park, San Francisco, Cal., and the last endurance contest, at Worcester, Mass., while New Year's Day is programmed for a 24 hours race at Ascot Park, Los Angeles, Cal., and the start of a two days' endurance run from Philadelphia, Pa., to Wilkes-Barre and return.

Twenty Entries for Quaker City Run.

That considerable interest is being taken in the Quaker City Motor Club's annual two days' endurance and reliability run, is evidenced by the fact that no less than 20 entries have been made. The contest to Wilkes-Barre and return, which is to start in the early hours of January 1, is to be a strict and exacting affair and not essentially a pleasure outing. The schedule to be maintained has been set at 20 miles per hour, although this may be reduced somewhat, on account of the difficult condition that will be encountered on the road, especially if the snow is at all deep. A rigid technical committee will endeavor to eliminate as many cars as possible from the "clean score" list when penalizations are warranted and the general opinion of those connected with the run is that the list of perfect contestants will be very small, when the cars return to Philadelphia on the following day.

The route starts out from the Club's headquarters on Broad street and is exactly the same as that of the Glidden tour last summer as far as Delaware Water Gap, then it branches off and runs to Stroudsburg, through the Poconos to Wilkes-Barre. The first control on the tour is to be at Sellersville, 33 miles out; the second is at Allentown, 54 miles from the starting point. From Allentown, where the checking station is at the Hotel Allen, the run goes straight through Bethlehem, Easton, Martin's Creek, Portland and the Delaware Water Gap to Stroudsburg, where the third control is at the Hotel Fulmer, 104 miles. From Stroudsburg to Wilkes-Barre one of the most beautiful parts of the whole tour is encountered and in parts the roads are splendid, there being 15 miles of State road through the Pocono Mountains, which is the finest on the run in the whole 300 miles. The run from Stroudsburg to Wilkes-Barre, the fourth control, is at once about as difficult and at the same time as pleasant as any part of the tour. In good weather the roads through this region are all that could be desired, but in the dead of winter they are very likely to be hard traveling, whether it is wet or dry.

The hardest and really the only dangerous section along the whole route is from Hazleton to Hamburg, a distance of 36 miles through roads so narrow that two cars cannot pass upon them in many long stretches. Should any contestants break down on this part of the route, a complete tie-up of the whole line is liable to result and a few of the drivers will doubtless wax petulant.

Briarcliff Racing Committee Organizes.

Another step was made in the troublesome practice of clearing the Briarcliff road race situation, when the racing committee met and elected permanent officers on Monday last, 28th inst. Percy Owen was made chairman and C. F. Wyckoff, who has been acting in this capacity temporarily, was elected vice-chairman. The Wagner-Field Company, composed of Fred J. Wagner and Russell Field, was appointed permanent secretary. In place of the suggested audit committee, a finance committee was chosen, consisting of three members—S. B. Bowman, J. S. Josephs and H. A. Lozier. Chairman Owen assisted greatly in electing himself, inasmuch as he, with E. Rand Hollander and H. A. Lozier, composed the nominating committee. Of the eleven members present at the meeting, seven are said to have announced that they would positively enter the race next May, for which a course is still wanted.

Women's Inter-City Run Postponed.

The Woman's Automobile Club, which so unexpectedly made its appearance a few days ago, near Columbus Circle, New York, did not engage in the heralded reliability run to Philadelphia and return on Tuesday and Wednesday last. The mere men who are engineering the affair decided that there was too much snow on the road for comfortable driving and in consequence postponed the event until January 11-12. Meanwhile, and in response to inquiries, the club's press bureau is authority for the statement that Mrs. Alice H. Ramsey was elected president of the club on December 11 and that other officials probably will be chosen this week.

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FACTORS OF FIRST COST OF CARS

The Proportions in Which the Maker's Charges are Divided Up—Tires the Most Costly Element.

Various ideas are entertained by motorists and even by those directly connected with the trade, but more or less unfamiliar with the manufacturing end of the business as to how the first cost of a car is constituted and in what proportion the makers' charges are divided up. It is safe to say, however, that it would scarcely be expected that the item of tire cost would rise to as great a proportion as a fifth of the total original worth of the material embodied in the finished product. That such is the case, in foreign practice at least, is shown in a resume presented by the Autocar.

"As a majority of makes of motor cars are now being marketed at a normal value, and the buying public appear to be seeking after cheap cars rather than expensive ones, it may be interesting to classify the heads under which the total value of a motor car is made up," he remarks. "It should be noted that in the present instance the cost of experiments, tools, patterns, etc., necessary to establish the actual type of car supplied by a manufacturer, is not taken into consideration, but a model is dealt with the initial costs in the production of which have been written off by virtue of its standardization and popularity.

"On a powerful car, which has a small clientele, and, of course, a comparatively limited output, these items are of considerable importance. In the cost of a motor car one has to consider:

"The raw material.

"The workmanship.

"The genral expenses and normal profit of the manufacturers and retailers.

"The general expenses and normal profit made the following table showing for their principal type of car, viz., the 14 horsepower chainless, the cost of raw material and parts, which must be purchased before commencing to manufacture:

Parts	Per cent. of cost.
Tires	21.7
Steel	10.6
Aluminum castings	9.2
Axles	8.4
Rubber tubing, aprons, nuts, bolts, etc.	8.2
Magneto and fittings	8.2
Ball bearings	7.4
Radiator	5.4
Chassis	3.8
Bronze castings	3.4
Forgings	2.8
Springs	2.6
Cast iron	1.8
Steel tubing	1.5
Paint work	1.4
Lubricating materials	1.4
Wood work	1.2
	100.0

"From an examination of this table, one can deduce some very interesting points," the author continues. "The proportion of tire cost is somewhat astonishing, and it will therefore be realized that the first question to be taken into consideration is that of the weight of a car, this weight being the criterion of the initial cost of tires as well as of their upkeep afterwards. The second item of cost is steel. In a car of the 14 horsepower Germain type, 1,300 pounds of steel of various types and qualities in the rough are required. A penny saved in the cost of each pound would therefore reduce the cost by £ 8s. 4d. ($26.30). The price of steel can vary from a few pence per pound to 2s. (50 cents) and more per pound, and one can imagine what difference it can make in the cost of a car to use good or common steel.

"By replacing aluminum with cast steel or iron, a new economy would be realized, but again the important question of weight would intervene, and the economy would only be for the manufacturer.

"Then comes the front axle—a point on which rests the safety of the occupants of the car. A good axle costs anything up to £20 ($100), some racing axles costing £70 ($350) or more, whereas a cheap axle can be bought for £2 or £3 ($10 or $15). To all outward appearances they are identical, and nobody would be able to recognize the good one from the cheap one by mere inspection.

"An expensive magneto and a good radiator can be replaced by common and cheap types, but with this reduction in price there would be a proportional increase of possible breakdown.

"The sundries and other parts come to a more moderate proportion, and certainly an economy could be realized on most of this material. After the material comes the cost of workmen's time in manufacturing. Of course, absolute standardization is presupposed, without which one cannot have a perfect motor car. With a well-equipped works, well-designed tools, and the cost of labor not excessive, the men's time expended on a chassis amounts to about 10 per cent. of its value.

"What is more expensive and important is the case-hardening and tempering, and then the necessary rectification of all the working parts. If these operations are not made, which is often the case in cheap cars, the machines at the beginning would certainly look identical, and the cheap one would run as well as, if not better and more silently than, a car more conscientiously made, but after a time all the soft moving parts would start to wear, and then the car would rapidly go to pieces, and it would be impossible to have it repaired. Case-hardening, tempering, and rectification are expensive operations, but they are the only guarantees against wear and tear.

"The general expenses, advertisement, and normal trade profit which then come add to the price of a car. There are generally in good firms in proprotion to amount of output, and are points which it is more difficult to account for. It is not surprising to find, therefore, that two cars absolutely identical to outward appearances, and running equally well, may vary in value and price up to about 40 per cent."

Weight of the Car's Equipment.

Some little time ago considerable stir was created abroad by the publication of an article showing the relative weights of various accessories and the way in which they were distributed about the average touring car. Up to this time, no effort has been made by the American manufacturers to show the corresponding figures for local practice, nor how with good judgment in design a properly and amply equipped car may be put out without being overloaded in this respect. Figures just issued by the George N. Pierce Co., as covering the standard practice in equipping their cars, however, reveal that the total equipment, including supplies totals 581 pounds, or more than the equivalent of two passengers' weight. This equipment, however, is more complete than the average, so that the total amount probably exceeds that found in ordinary practice.

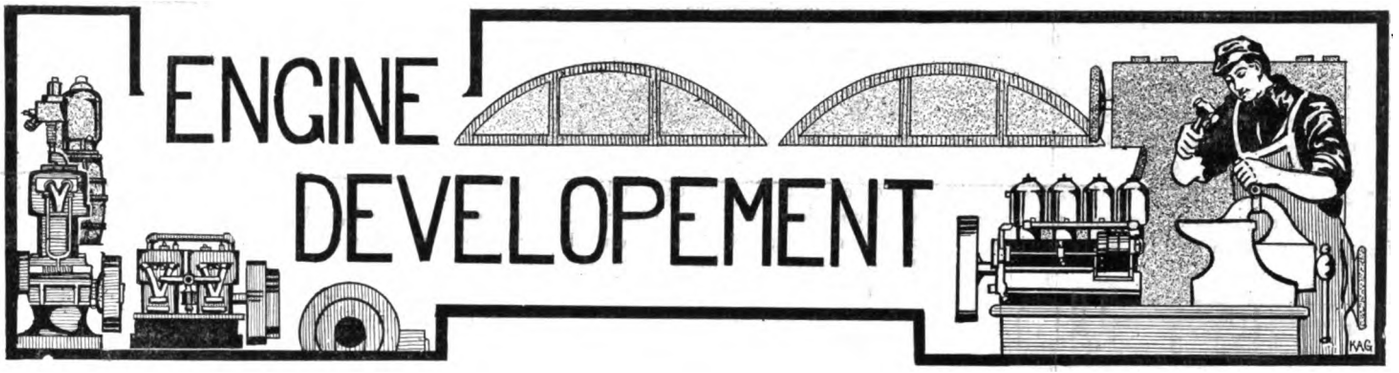
Among the details of the equipment not always found in cars of stock construction are included the following, which form a regular part of the Pierce inventory: Shock absorbers, 28 pounds; odometer and fittings, 2 pounds; footrest, 7 pounds; robe rail and brackets, 5 pounds; dash cabinets, 3 pounds; luggage carrier in rear, 17 pounds; tool box in rear under frame, 26 pounds; sprag, 12 pounds; rubber bumpers, 5 pounds; rear axle straps, 2 pounds; gasolene gauge, 1 pound. Total, 124 pounds.

In addition to this with every Pierce Arrow is given tools and spare parts amounting to 55 pounds, making the total 179 pounds.

Aside from the actual mechanism and body of the car there are extras such as cape top, 138 pounds, and the glass front, 44 pounds that count in the actual weight of the car. Water, oil, gasolene and grease add another 220 pounds, making a total with the accessories of 581 pounds.

The ignition outfit of a Pierce Arrow adds a further element to the total weight. Two separate systems are used, a high tension magneto and storage batteries, working through two sets of spark plugs. The magneto system weighs 32 pounds and the battery system 70 pounds, or 102 pounds in all. While the battery system is a convenience, it could under certain circumstances be dispensed with and 70 pounds of weight saved. Aside from the mechanical parts of the car are the lamps, lamp-brackets and horn, weighing 87 pounds, which with the batteries make 157 pounds. This added to the total of 581 pounds for accessories and supplies give a total of 738 pounds of the total weight of the car in running condition.

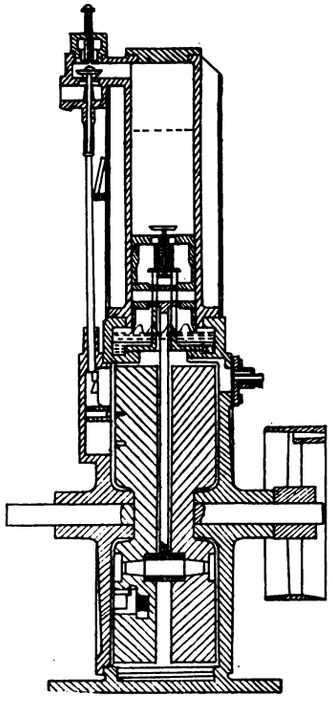
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It is a long story, which tells the full history of the development of the internal combustion engine from its earliest beginning to the present day. But the most interesting and important portion of it is that which deals with the evolution of the type commonly known as the automobile motor. This is so because in that type is presented the lightest and most supple form of gas engine known, one which is capable of assuming varying loads under all sorts of service conditions and of doing so with fuels which though nominally uniform in quality actually vary not a little in thermal value and consistency.

Outwardly, the automobile engine may be said to have undergone but slight modification during the 24 years since Gottlieb Daimler produced the first really successful type of high speed motor. The present day types, working upon the same Otto cycle and possessing exactly the same organs actuated in almost exactly the same manner appear superficially, to reveal but slight marks of progress save that they are larger and that they manifest a higher degree of flexibility. That these two points involve the secret of automobile engine development, of course escapes the casual observer. As a matter of fact, practically all efforts at perfecting this type of engine have involved one of these two considerations. Questions of silence in operation, of reliability, of weight to power ratio, and of efficiency have been subordinated to them in the evolution of the automobile type of motor.

Daimler's original engine, which was patented in Germany on April 3, 1885, differed from the most prevalent of present types mainly in that it was air-cooled. This function was secured by surrounding the cylinder with a sleeve of thin metal, separated from it by a liberal air space, and directing a current of air upward through it by the aid of a fan attached to the crank case. Other characteristics of the motor may be observed from the accompanying illustration which shows that the inlet valve was automatic in action and that a certain amount of air was admitted to the cylinder during the suction stroke through a supplementary valve mounted in the piston and admitting air through the crank case. This feature has since become obsolete along with the method of valve actuation and of governing. The exhaust valve, it will be observed, was operated by a feather carried on the lower end of the tappet rod and traveling in a cam groove cut in the face of one of the two enclosed fly wheels. Governing was secured by causing the feather to travel in an approximately circular path during one or more cycles, thus preventing the exhaust valve from opening. The later



EARLY DAIMLER MOTOR

Daimler engines differed in this point, a small trip lever being made to cause the tappet to miss engagement with the valve stem when governing was required, the action otherwise being the same. Though this motor had but one cylinder, a later type had two, placed at an angle and thus constituting the first example of "V" construction.

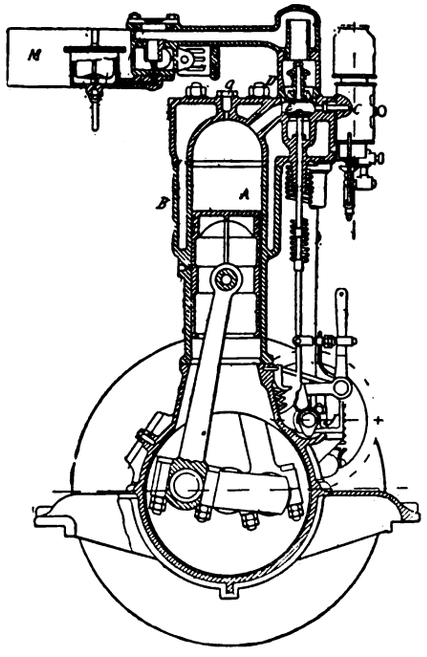
Although Daimler's service to the industry in embryo was a useful one, and he is beyond a doubt entitled to all the credit which he commonly receives as the "Father of the Automobile," one of his early associates, William Maybach, also is entitled to no small share of credit for the development of the float feed and spray principle of carburation. Daimler's method of carburetting the charge for his engine had been to draw a certain amount of air up through a quantity of the liquid fuel thus gassifying and carburetting it by actual contact. But his bubbling or filtering carburetter failed to produce wholly successful results. Maybach introduced the method of float regulation of the supply now in constant and successful use, as a means of accomplishing a direct atomization of the fuel by injecting it into a current of air. Crude as was his first attempt, the present day carburetters, with perhaps one exception, in the case of the so-called "puddle" type, follow its lead.

In the early types of Phoenix-Daimler engines, which were made by the firm of Panhard and Lavassor under license from Daimler's company, considerable strides were made. The two-cylinder type was an early feature, following the plan of Daimler's second attempt at cylinder multiplication with the cylinders parallel and acting on a 180° crank. Here, water cooling, the spherical combustion chamber, the exhaust cutout governor and a number of other features were improved upon until the motor became practically what it has remained ever since with four noteworthy exceptions. The Maybach carburetter was supplanted by the Phoenix and later by the Longuemere, the exhaust governor was reluctantly abolished in favor of the throttle type, hot tube ignition gave way to the electric spark, and finally, mechanical inlet valves were adopted. It is a remarkable fact, however, that despite the retention of some of these features long after other constructors had given them up, the Panhard motors, many of them ten or a dozen years old, continue in service to-day, and on a basis of piston displacement, continue to compare favorably with many others of more modern attainments.

Significant as being the prototype of a number of successful engines of later date, and, indeed, of the entire type which up to within four or five years was considered distinctly the American style of engine formation, the construction of the Henroid

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motor should be considered. As shown in the picture it is seen to consist of the regular opposed arrangement cylinders with radiating flanges formed integrally with the cylinders, pistons acting on cranks set at 180 degrees, push rod and cam valve gear, a single carburetter, the electric ignition. A Henroid car in 1899 ran from Paris to Bordeaux, a distance of 351 miles in 19 hours 15 minutes, which shows the success of the design even at that early period.



PHOENIX-DAIMLER MOTOR

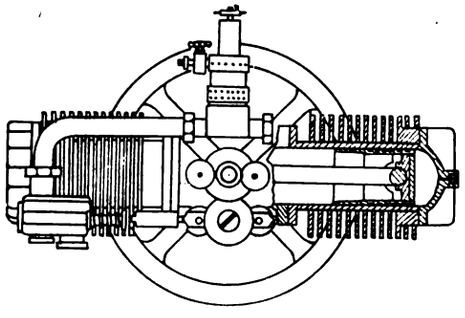
Paralleling the development of the Panhard motor, which must be considered in many respects the first milestone in automobile development, a number of other constructors were at work upon engines which later achieved more or less prominence in the foreign field. Carl Benz, in the same year as Daimler, patented his first gasolene-driven motorcycle. His later activities were carried out contemporaneously with those of Peugeot, De Dion and Mors.

In America, practical automobile motors did not begin to materialize until the early 90's, when, in 1893, Elwood Haynes first commenced work on the automobile idea, which in 1894 was crystalized in his first car, built for him by the Apperson Brothers, and graced by a single-cylinder vertical two-cycle motor of 1 horsepower. The following year, 1895, was marked by the appearance of the first double-opposed automobile motor, built by the Appersons; the appearance of the first car built by Charles E. Duryea, and by the granting of the Selden Patent, which since has figured so largely in the industry.

Without attempting to trace further the progress of evolution from the standpoint of the pioneers and their efforts individually, it may be sufficient to follow roughly the steps which were taken in arriving at the perfection of the present types. In studying the numerous difficulties encountered by the experimenters of the later 80's it was found that they readily segregated themselves into such shortcomings as improper carburation, improper ignition, irregular torque and inflexibility. Consequently, and because of the extremely involved nature of each of these problems, it followed that in each case a line of individual evolution has taken place. Carburation and ignition laterly have been taken care of by specialists in these particular lines, so that the engine designer himself has been left to the improvement of the motor proper, while the organs in question have come to be regarded as auxiliaries.

From the bubbling carburetter through the various types of surface vaporizer in which gasification was induced by ordinary evaporation, to the first of the spray types was a big step progressively. But it soon was learned that the mere spraying of the liquid fuel into a stream of air on its way to the engine was not all that was required. The proportions of gas and air must be very delicately adjusted, it was found. Furthermore, it developed that the proportions must be varied in accordance with different operating conditions in the engine, such as differences in load, speed, and even in accordance with varying atmospheric conditions, to a limited extent. Hence the appearance of various methods of compensation, as it came to be known, by means of which the natural tendencies to unsatisfactory working of the simple jet were counteracted with greater or less success. It was not until 1903, however, that Arthur Krebs invented and patented the diaphragm system of regulation which proved so successful.

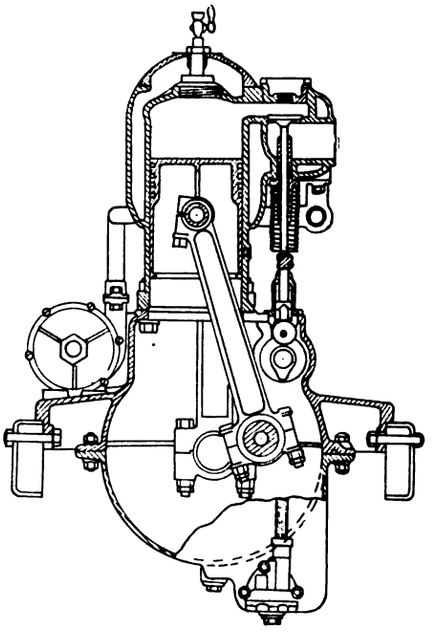
In this connection it may be observed that no part of the motor has undergone a wider variety of experiment than the carburetter. Countless methods of regulation have been tried and many ingenious systems of construction attempted in an effort



HENROID MOTOR

to secure the delivery of a uniform quality of gas irrespective of running conditions. The float regulated spray or jet always has proved the most popular. Its regulation has been accomplished automatically and by means of the varying suction or by the varying pressure of the water circulating through the coiling system, by means of fly-ball governors manually or by fixed adjustment according to the theories of the experimenter. One of its most interesting forms is the multiple jet type, in which the idea of a little carburetter for low speeds and a big one for high, is carried out on a practical scale.

Perhaps the most significant development of recent date in this line is that of the puddle type, in which the jet principle is utilized only at very high speeds, while for starting and at low speeds what is practically a reversion to the old surface type is employed. As used in several different instruments, it has proved remarkably effective with the advantage very unusual in carburetters, that it renders starting easy and certain without the necessity of resorting to excessive "flooding," throttling of the air supply or otherwise upsetting the regular action of the device.



MODERN AMERICAN TYPE

Turning to the subject of ignition, the trials of the early experimenters with hot tube and flame devices contrast oddly with the successes of modern ignition specialists, though the former had the unquestionable advantage of simplicity in their favor. The complexities of the modern systems, however, lie more on the side of theory than of practice as known to the motorist who, where the modern, high tension type of magneto is employed rarely has occasion to remember what ignition is, whereas the hardy motorists of earlier days were required to be expert electricians before they could begin even to keep their machines in running trim.

The plain spark coil of the Rhumkorf type together with mechanical make and break on the primary circuit were employed in the earlier systems, improvements in the shape of vibrator coils, storage batteries, the transient dynamo, and finally the magneto, being introduced in turn. Methods of wir-

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ing, the development of the industry of spark plug production and finally the simplification of the magneto systems have combined to do away with the old ignition difficulties very largely. The make and break system, though not as generally employed to-day as it was at one time predicted it would be, still possesses a number of staunch adherents and yields a degree of reliability in service which is remarkable.

In connection with the obvious need of higher powers, it early became evident that the desideratum of increased flexibility in the motor might be obtained to a degree at least, by increasing the number of cylinders. Improvements in carburation and ignition brought about changes for the better, but not until the four-cylinder and later the six-cylinder motor came into use, did the ideal of flexibility begin to be attained in any really notable degree.

Coincident with these developments the motor proper was undergoing wonderful changes of the sort which, for the most part make little or no appeal to the eye. The position of the spark plugs, the arrangement of the valves, the shape of the combination chamber, relation of bore to stroke, rate of piston speed, design of the crank shaft and fly wheel, and even the design and arrangement of the valve gear, all represent problems which have had to be studied out in detail, and largely with the aid of actual experiment.

In this connection, the importance of the improvements in lubrication cannot be emphasized too strongly. From the old, simple method of splash lubrication, or, in the case of the early Daimler motor, the use of an oil well into which the lower end of the piston dipped at each stroke, down through the various intermediate steps to the most highly developed and expensive form in use to-day in which the oil is circulated through the hollow crank shaft to the various bearings under regulated pressure, is a long stride.

Methods of cooling both by air and water have been wrought out with the same degree of patience which has been employed in every other case, the transition from the early chain driven pumps to the centrifugal gear driven devices of the present day being only one instance of the progress which has been made. The use of new and improved materials of construction, the readjustment of the bearings, fittings and methods of mounting which have followed in their train; the adoption of methods of interchangeable production with their structural benefits as well as their economies; and the establishment of fixed ideas as to the proper relation between the weight of the vehicle to be propelled and the power of the motor as a result of which the average motor no longer is apt to be overtaxed, all have combined to produce the old-time requirement of reliability, silence and durability in service, which for a while seemed actually unattainable to a really practical degree.

HOW SPRINGS NEUTRALIZE SHOCK

Principles that Affect the Suspension System—Their Operation in Distributing Stresses of Motion.

Though it is sometimes charged that even automobile designers as a class know very little about spring design, and are forced to rely upon the superior technical knowledge of the spring maker himself in securing for their machines the proper sort of equipment, it is equally true, if less commonly recognized, that the average user

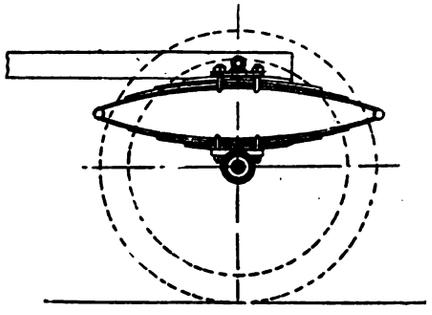


Fig. 1

has but small comprehension of what the requirements of the spring suspension are, even in the most elementary degree. It is probably true that of the many thousands of users who are constantly familiar with the action of the springs, only a small proportion actually understand how the suspension acts in distributing the stresses which exist between the body and the wheels, and between the body and the

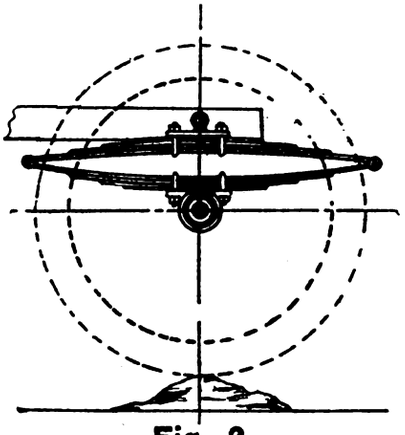


Fig. 2

ground. In condensed and primer form, the Co-Operator, which is the periodical exponent of the Maxwell-Briscoe Motor Co., explains what these actions and reactions are, and how they are absorbed by some of the various types of suspension in common use.

"It is a common error to suppose that the spring serves merely the purpose of absorbing the shocks coming from the load above the wheels," remarks the authority in question. "It is just as effectual in neutralizing the shocks coming from the running gear and forms, in fact, a common center in which the jolting produced by the inequalities of the road surface find their adjustment.

"The springs of a vehicle moving along on a level road will be, as shown in Fig. 1, the amount of compression being proportionate to the load carried. If the inequalities of the road be only slight the opening and closing of the springs will compensate for the bumps and hollows and the load will travel substantially in a straight line. When a bump is encountered, however, the inertia of the load will resist the tendency of the vehicle to raise the load and this force expended in altering the vehicle's motion causes the spring to close with a consequent absorption of the shock that otherwise would be imparted to the vehicle.

"Fig. 2 illustrates how the closing of the spring practically permits the load to travel in the same horizontal direction as before, a result brought about by the compensating action of the spring that has absorbed the rise of the wheel in mounting a road obstruction.

"Any material that is highly elastic—capable of considerable distortion upon application of force, and certain to return to its original form upon being relieved of the influence of the force that distorted it—is suitable for spring construction.

"Tempered steel, being the most elastic of all metals, furnishes the most suitable material for automobile springs and is practically the only metal used for this purpose. The spring almost universally used in automobile construction is the so-called laminated spring, consisting of several thin laminae, leaves or blades which are fastened at their middle to the axle and support the vehicle at their ends. As a rule the longest of the leaves is fastened to the vehicle, while a plurality of successively shorter leaves are used to reinforce the longest leaf as the flexion increases. The commonest form of automobile spring, one that is used also extensively in railroad construction and in horse-drawn transportation is the half-elliptic spring shown in Fig. 3. As a rule the axle is attached to the center of the spring and the load is carried on the two ends. When made of proper material this spring gives most satisfactory results, combining flexibility with sufficient rigidity to transform road shocks into a soft, undulating motion.

"The inverted half-elliptic spring is illustrated in Fig. 4. Used on motor trucks and on touring cars of more than ordinary weight it is generally utilized in combination with other springs.

The full- elliptic spring—Fig. 5—is used more extensively in horse-drawn vehicles and on runabouts of light weight, where in view of the lighter loads carried it gives excellent service. Though the full-elliptic

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spring has a greater range of motion than the half-elliptic spring it is considered of less value in railroad service and on heavier automobiles, chiefly on account of the unavoidable lateral motion that causes the load to rock from side to side.

"In Fig. 6 is shown the three-quarter-elliptic spring which constitutes simply a half-elliptic spring with a quarter-elliptic spring supporting it, the latter taking the place of the more customary spring horn.

"Well designed springs . . . . are built up of thin, broad leaves, of a number that is sufficient to give ample strength. Besides the length between the points of attachment, the number of the leaves and their width, thickness, and the quality of



Fig. 3

the steel determine the efficiency of a spring as a shock equalizer. It is easy to see that thin leaves will bend and return to their former shape more readily than thick leaves; for this reason it is customary to multiply the number of leaves rather than to increase the thickness of the individual blades.

"The curvature of the spring leaves should be the arc of a circle, since in this manner the longer and shorter leaves will

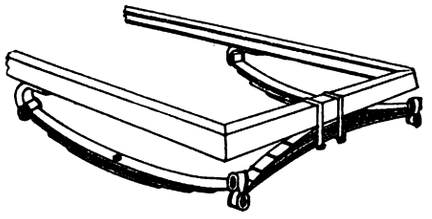


Fig. 4

fit closely upon one another and bend in either direction without leaving gaps between any two leaves. If such gaps are left the different leaves do not remain in contact throughout their full length and the danger of breakage will be imminent. A half-elliptic spring of faulty design is shown, extended, in Fig. 7, where the unequal curvature of the leaves will be seen.

"To prevent the leaves from separating in case of toss, clips are passed over them, as is seen in Fig. 8, and a bolt is passed through the center of all the leaves, not as a means of fastening the spring to the axle, but to prevent the laminae from sliding away from each other.

"Since when the wheel passes over an obstruction the rise of the axle necessarily lengthens the springs the latter are fastened to the frame by means of shackles. . . . . If, for instance, a spring fastened in the manner shown in Fig. 9, straightens out on mounting an obstruction it is inevitable that the load is thrown upward, while on the other hand if the shackles work under the ends of the spring any jolt imparted to the wheels causes the load to fall, with a consequent reduction in the loss of mechanical energy. . . . .

"A properly designed spring is the result of much experimenting, it being im-



Fig. 5

possible to use the same kind of spring on cars differing in weight, wheelbase and other features. Even with all these factors settled it is no easy matter to construct a spring that will support a vehicle and ride as well with one or two passengers as it will with the full quota of five occupants.

"Like many other parts of the automobile the spring comes in for its fair share

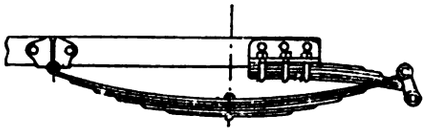


Fig. 6

of abuse, and many breakages of springs might be avoided could the driver be prevailed upon to pass over holes, ruts and ditches at a somewhat slower gait than is often done. As a general rule a spring does not break because the weight of the car bears down upon it with too great a force, but it gives way on the rebound, when the segments of the springs become



Fig. 7

separated and cease to support one another—a condition illustrated in Fig. 7."

One frequent cause of breakage of springs, the article goes on to recite, arises from the neglect of owners to look over their spring clips occasionally and draw up the nuts which hold them upon their beds. Any relaxation of the tension of these nuts, must result in the loosening of the binding



Fig. 8

which they exert upon the spring centers bringing about a tendency for them to bend upward as shown to an exagerated extent in Fig. 10. Frequent inspection of all the spring fittings, of course, tends to eliminate any and all troubles which might emanate from this or kindred sources.

"In a well balanced automobile," the article concludes, "it is necessary that the springs be mated, that is of nearly equal resiliency all around. Yet is it Maxwell practice to have the right hand springs just a trifle stiffer than those supporting the left side. The practicality of this scheme is seen in the fact that tools, extra tires and other accessories usually are carried on the right side of the car. The right side also carries the weight of the driver when the car travels without passengers and proper balance is restored by selecting slightly stiffer springs for the right side.

"To judge the efficiency of springs by



Fig. 9

guess work or crude means is impossible. In consequence Maxwell springs are tested by a novel contrivance designed by J. D. Maxwell for the purpose. This machine . . . . consists of a rectangular platform bearing inverted spring hangers. The shackles bear upon knife edges instead of upon the usual bolts. In the testing of springs the platform is raised by hydraulic pressure until the spring is opened a certain pre-determined distance. At this distance the pressure which is read on the graduated scale beam, must conform to a

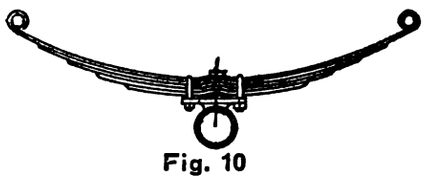


Fig. 10

certain standard with regard to each car. For instance, the springs used on the four-cylinder 30 horsepower model "D" are opened 3 inches while supporting a load of approximately 650 pounds."

Squeaks Call for Investigation.

Squeaks should be avoided in cars of all sizes, types and vintages, but most of all in new cars, and whenever encountered, should be followed out to their source and stopped with religious zeal. As a matter of fact the squeaks which are most apt to develop in new cars are those which come from parts which are stiff from being newly assembled and painted, arising mostly from reluctant springs and joints which are not properly secured. At the same time, they are as needless as they are annoying, and as they sometimes point to errors in construction, they should be traced out at once. Squeaks in cars which have been used for some little time always are important to locate and eradicate, as they arise from parts which are in need of lubrication.

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WASHINGTON WANTS GOOD ROADS

Movement to Amend the State Constitution to Permit Issue of Bonds—$20,000,000 the Sum to be Named.

Members of the legislative committee of the State Good Roads Association of Washington are planning to submit a proposition to the Legislature to amend the Constitution, authorizing the State to issue bonds of $20,000,000 for State highway improvement. The purpose is to complete as rapidly as possible the various road projects now under way. If the bond issue meets with opposition the Legislature will be urged to increase the levy for the highway fund to one mill.

When the Highway Commission was created a public highway fund was established to be kept up by a direct tax levy, the levy being fixed at one-fourth of a mill. The last Legislature increased this to one-half a mill, and a revenue of $132,553 for 1907 and $286,536 for 1908 resulted from this scurce. The estimated revenue for 1909 is $374,296. From this amount the last Legislature appropriated $225,000 for State roads, and it is estimated that this sum will hardly be sufficient to complete the contracts alread let, although there will be but a small deficiency. The State now has 13 road projects.

Under the present plan of making appropriations it would take 24 years to complete the road work on the surveys which have already been made, without considering improvements and repairs. It is also estimated that if the $20,000,000 bond issue were made it is doubtful if it could be expended judiciously in much less time.

Chauffeur Becomes a Legislator.

Just how a chauffeur, who is privileged to make his own laws to some extent, will act in the matter of speed control and good roads legislation, remains to be seen when Representative "Tom" Davis takes his seat in the Massachusetts Legislature on the first of the year. Davis was formerly employed by the Matheson Automobile Company as a tester and in other capacities and later went with a private family as a chauffeur. Not long ago he quit work to make an effort at breaking into the Legislature and was beaten the first time he ran for office, two years ago, by 40 votes. This election he threw in his high speed and won handily in the stretch. For the past 16 years he has been a resident of Holyoke, which city he will represent.

Detroit Proposes to Limit Light.

In Detroit, Mich., the common council is wrestling with a proposed ordinance limiting the candle power of motor car headlights. At just what degree a light shall be declared illegally luminous and blinding to other occupants of the city's highways, is the point that is puzzling the aldermen, and the corporation counsel is conducting a number of experiments with several makes and models of lamps to ascertain just how much candle power they develop. In view of the fact that the ordinance provides for a fine not to exceed $500 or imprisonment for not more than six months, as a penalty for each violation, just where to draw the line is an important feature.

Bridge Roadway for Automobiles.

In view of the fact that the new Queensboro Bridge across the East River will soon be the chief route of New York automobilists touring Long Island, it has been decided by Commissioners of Bridges, to set aside, if possible, a section of the structure for the exclusive use of automobiles. A change in the plans has been proposed, so that the two trolley tracks now on the lower deck of the span will be removed to the upper thoroughfare, to make room for a motorists' right of way. If the change can be accomplished, it will prove a boon to the many owners of automobiles, who, at present, have to be content with slow passage on ferry boats, or else risk blocks and delays on the Brooklyn and Williamsburg bridges, in order to reach, in roundabout manner, the smooth touring country of Long Island, or the Motor Parkway.

Hartford Forbids Parking in Streets.

Under a new ruling of the Hartford (Conn.) police department, automobile owners must "hire a hall" or rent a garage in which to keep their motor cars while attending the theater. No more free parking space is to be allowed along Prospect street, upon which many theater patrons used to leave their cars between the hours of 8 and 11 p. m. The police department held that the partial obstruction of lines of cars on each side of the street, was dangerous in case of fire, as it tended to retard the passage of fire apparatus.

Imposes Road Tax Upon Himself.

A strange case of enlargement of the motorist heart has been reported in Belmont, Mass. Henry O. Underwood, a resident of that place, sent a check for $100 to the town treasurer for damage done to the roads in that section by the donor's large automobile. The act was wholly voluntary and is without precedent in New England history. However, the local authorities are not sanguine enough to hope that this will become a general or regular custom among the resident motorists.

Memphis to Have Taximeter Cabs.

The Business Men's Club, of Memphis, Tenn., through its industrial department, is backing a company to operate taximeter cabs in that city. Representatives from various makers have appeared before the club, and a selection of ten machines has been made.

NEW JERSEY AFTER BETTER LAW

Active Canvass in Progress to Obtain Views of Motorists—Committee Appointed to Frame Amendments.

With the avowed intention of checking the activities of Joseph Frelinghuysen, resident of New York State, and Senator in New Jersey, and also to deal his miserable automobile law a crushing blow, the New Jersey Automobile and Motor Club, in common with the local trade association, has taken active steps toward securing a less repressive measure during the forthcoming legislative session. An active canvass among motorists is to be instituted at once for the purpose of obtaining their views, which data will be used in framing the new amendments that are destined to take the place of the many bad and objectionable features of the Frelinghuysen law. At a special meeting of the club, held last week, a special committee was appointed to investigate existing conditions and make a report in time to present the proposed amendments in the Legislature next month. The committee consists of Richard C. Jenkinson, George H. Simonds, Joseph H. Wood, W. C. Crosby, H. D. Bowman and W. B. Kinney.

Want the Punishment to Fit the Crime.

The fact that a number of automobiles have been stolen in Milwaukee, Kenosha and other Wisconsin cities, has led the motorists of Racine to demand a more drastic law in regard to thefts of this sort. Many owners of cars favor putting this crime in the same class with horse stealing, for which the penalty in that State is by no means light. Owners think that inasmuch as a motor car is worth several times the value of a horse and that as the maximum penalty for horse stealing is 15 years, the maximum penalty for purloining a car should be more than 5 years.

Satterfield Head of Buffalo Club.

More than 400 members of the Automobile Club of Buffalo, N. Y., attended the annual smoker and election of the organization on Tuesday last, 22nd inst., and elected the following officers for 1909:

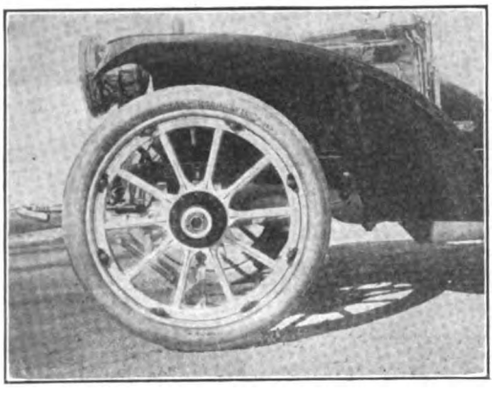
President, John M. Satterfield; vice-president, Laurens H. Enos; treasurer, Harry Thorpe Vars; secretary, Dal H. Lewis; directors, Edward H. Butler, E. R. Thomas, George C. Diehl, J. N. Byers, Maurice M. Wall and George P. Urban.

Lower License Fee for Cabs Wanted.

A petition for a rudection in the licenses required for taximeter cabs has been made to the city council by the Los Angeles Taxicab Co. The present fee is $5 per month, which the company asks to be lowered to $1 per month.

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Continental Ready-Flated Tires



1—Ready-Flated Tire in Position on Wheel

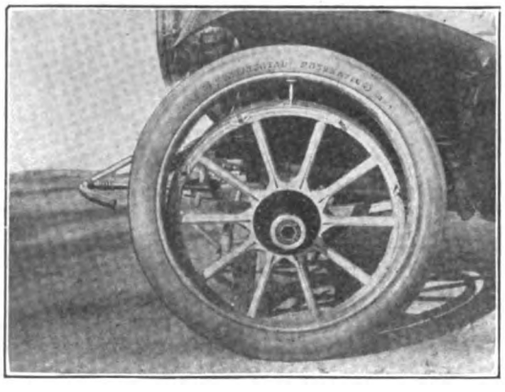
Permit the carrying of tires already

INFLATED ON SPARE RIMS

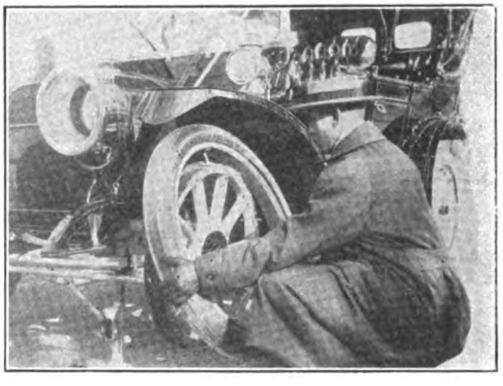
Reduce tire expense and make motoring a pleasure



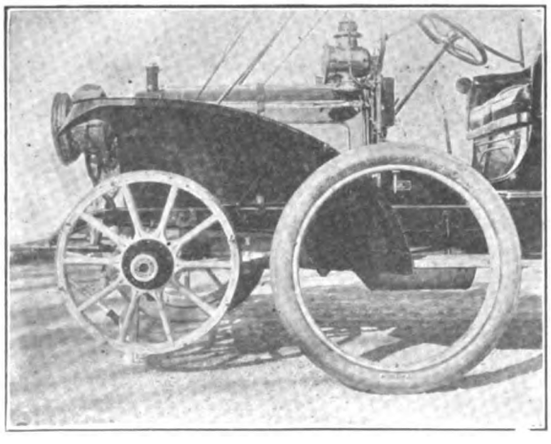
5—The Finishing Touch



2—Ready-Flated Tire Partly Removed



4—Placing Ready-Flated Tire on Wheel



3—Wheel Fitted to Receive Continental Tire—"Ready-Flated"

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The Week's Patents.

899,699. Wheel for Vehicles. William D. McNaul, Toledo, Ohio. Filed April 29, 1907. Srial No. 871,005.

1. A cushion wheel for vehicles comprising an inner and an outer felly, a plurality of chairs on one of the fellies and a plurality of substantially V shaped flexible sections, each having its ends secured in adjoining chairs together with the ends of the adjoining sections, and having its middle portion secured to the opposite felly.

899,708. Connection for Electric Conductors. Frank H. Ball, North Plainfield, N. J. Filed Aug. 6, 1906. Serial No. 329,357.

1. A connection for electric conductors comprising an electric conductor; a spring clamp having jaws actuated by the clamp to detachably engage the conductor with a spring pressed contact; and a second conductor clamped and permanently held by the jaws of the clamp in position to receive greater pressure from the jaws as the clamp is placed in engagement with the first conductor.

899,770. Ignition Systm for Explosion Engines. Richard Varley, Englewood, N. J., assignor to Varley Duplex Magnet Company, a Corporation of New Jersey. Filed Nov. 8, 1907. Serial No. 401,191.

1. In an ignition system having a prinary circuit, a circuit controller having a plurality of contacts of different angular extent and located in different transverse planes, a continuously rotating shaft having metallic plungers in different planes corresponding to said contacts and equiangularly spaced apart, said plungers being spring-pressed radially outward and all grounded on said shaft, and a switch for putting one or any number of said contacts simultaneously into said circuit, the initial engagement of said contacts and said plungers occurring simultaneously when more than one is in the circuit.

899,809. Acetylene Gas Generator. Edwin M. Rosenbluth, Philadelphia, Pa. Filed Jan. 24, 1907. Serial No. 353,805.

1. An acetylene gas generator bracket, comprising a condenser in unitary relation therewith, detachably connected in rotatable relation with the generator, having a separate inlet and outlet for the gas and a drip outlet for the condensate, substantially as set forth.

899,822. Clutch. Heinrich Ast, Vienna, Austria-Hungary, assignor to The Firm of Vulkan Maschinefarbiks-Actien-Gesellschaft, Vienna, Austria-Hungary. Filed June 15, 1906. Serial No. 321,868.

1. In electric magnetic clutches: a shaft, a clutch member fixed thereon; a loose clutch member; a running sleeve free to turn upon said shaft and of greater length than said loose clutch member, and connected thereto in such a manner as to allow the latter only longitudinal motion with respect to the former; a collar on said running sleeve; and means exerting a yielding pressure between said collar and said loose clutch member.

899,856. Convertible Pneumatic Tire Rim. Erle K. Baker, Chicago, Ill., assignor of one half to Charles Gilbert Hawley, Chicago, Ill. Filed July 27, 1906. Serial No. 328,052.

1. A clencher rim having a removable flange and a filled ring adapted to fill the space in one of said flanges and extending above or beyond the edge thereof to protect a non-clencher tire from said edge, substantially as described.

899,876. Automobile Wheel. Joseph Laus, Jr., Oshkosh, Wis. Filed March 11, 1908. Serial No. 420,308.

In a device as set forth, a hub, an axle stub or spindle therefor, an interior spool shaped hub member positioned rotatably immovable adjacent to and upon said spindle, a pneumatic cushion extending about said hub member, casings therefor, means to allow the cushion to be inflated through the said spindle, said casings having bores to allow sufficient movement therefor to relieve the jar upon a vehicle, said interior casing having inwardly projecting portions to engage said cushion to hold the cushion and interior casing against a lateral or rotary movement.

899,891. Axle for Motor Road Vehicles. Jules Niclausse and Albert Niclausse, Paris, France. Filed April 18, 1906. Serial No. 312,483.

1. In a motor vehicle, the combination, with an axle comprising a tubular body with an enlarged middle portion having oppositely disposed lateral openings, power transmission gear mounted on a suitable support, the gear support arranged to be passed together with the transmission gear through one of the openings and secured on the inner opposite side of the tube to close the other opening, and a cap arranged to close the first opening, of a drive shaft extending longitudinally with the axle with one end connected with the transmission gear and the other with the drive wheel of the vehicle.

899,913. Power Transmission Universal Joint. Hugh R. Shaw, Rosseau, Ontario, Canada. Filed Dec. 13, 1907. Serial No. 406,294.

1. A power transmission joint or coupling comprising a ball member, a segment of a ring secured on the ball member and extending over more than one-half of the circumference of the same, and a socket member having the interior thereof in excess of a hemisphere and provided with an arc-shaped groove located on a plane through the axis of rotation and extending from edge toedge of said socket member so as to form a continuous bearing surface for the segment on the ball from end to end as it adjusts itself in the groove during rotation as specified.

899,934. Wheel. George Wolke, Jacksonville, Ill. Filed Feb. 17, 1908. Serial No. 416,401.

A vehicle wheel comprising a hub and a felly, a plurality of flat springs spokes carried by the hub, a plurality of pairs of clamping plates secured to the felly and projecting inwardly therefrom, opposing flanges on the clamping plates adapted to form a channl way, and flat springs secured in the channel ways formed by the clamping plates and having pivotal connection with the flat spring spokes adjacent the next preceding clamping plate.

899,953. Clutch Mechanism for Automobiles and the Like. Lee S. Chadwick, Philadelphia Pa., assignor to Chadwick Engineering Works, Philadelphia, Pa. Filed April 21, 1908. Serial No. 428,352.

1. A clutch comprising a main clutch member, a split clutch band, means for operating said band, and means independent of the operating means for connecting the end of the band to the main clutch member and for adjusting it circumferentially thereon, said band being removable and replaceable in respect to the main clutch member and the adjusting means, which latter maintains its adjusted position in readiness to receive the band, when replaced, under the same adjustment as before its removal.

899,974. Variable Speed and Reversing Mechanism. Noah S. Harter, Waukegan, Ill. Filed Dec. 2, 1907. Serial No. 404,689.

1. In a variable speed and reversing mechanism, the combination of a driving member, a driven member concentric therewith, and provided with a geared portion, planetary gearing carried by said driving member and engaging said geared portion of said driven member, shafts mounted adjacent and at right angles to said driving member, friction discs mounted upon said shafts, gearing connecting said driving member between said shafts and said driven member, and provided with a geared portion engaging with said planetary gearing of said driving member, and a friction wheel splined upon said sleeve in engagement with said friction discs, substantially as described.

900,063. Carriage Top. Joseph P. Fillingham, Lansing, Mich., assignor to Reo Motor Car Company, Lansing, Mich., a Corporation of Michigan. Filed March 25, 1908. Serial No. 423,081.

In the horizontal bow of a carriage top, the combination of a bow member and a pair of base members, couplings uniting the said members provided with a pair of pins around either of which the two members may swing, the said pins being adapted to hold the members in rigid arrangement when both are inserted, but to permit the swinging of one member with respect to the other when either of said pins is removed, substantially as described.

900,098. Carburetter. Frank H. Heotger, Indianapolis, Ind. Filed April 14, 1905. Serial No. 255,586.

1. In a device of the class described, a mixing chamber having an air inlet at its bottom and a mixture outlet at its top, in combination with a valve in said chamber and seated about the inlet opening therein, for automatically controlling the admission of air at said inlet, a spring resisting the movement of the valve, means for adjusting said spring, a vapor tube formed on said valve, a nozzle of less diameter than said tube and rising therein to a point above said valve, anda suitable reservoir wherewith said nozzle is connected, substantially as described.

900,163. Fender Clip. William C. Groehn, Detroit, Mich., assignor to Briscoe Manufacturing Company, Detroit, Mich., a Corporation of Michigan. Filed Nov. 25, 1907. Serial No. 403,690.

1. A clip comprising a shank, a bifurcated member having open recesses formed in the furcations thereof forming seats for said shank, a bolt engaging said shank between said furcations, a clamping nut for engaging the shank of said bolt and a bearing for said nut on said bifurcated member opposed to the bearings for the shank in said furcations.

900,234. Vehicle Spring Structure and Frame. Harry T. Tillotson, Chicago, Ill. Filed Dec. 21, 1906. Serial No. 348,922.

1. A supporting structure, a member fulcrumed intermediate of its ends on said structure, and springs mounted on said structure at each end of said member and normally urging both ends thereof downward to maintain said member in equilibrium.

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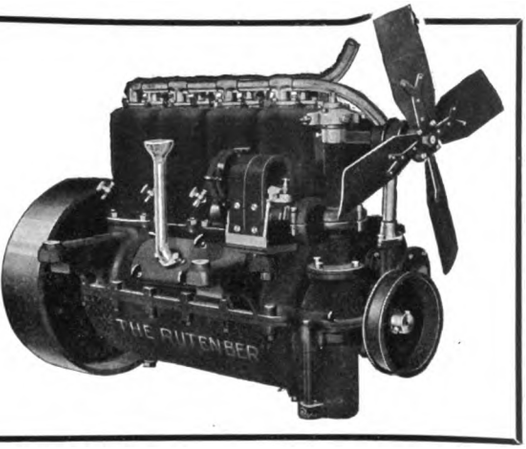
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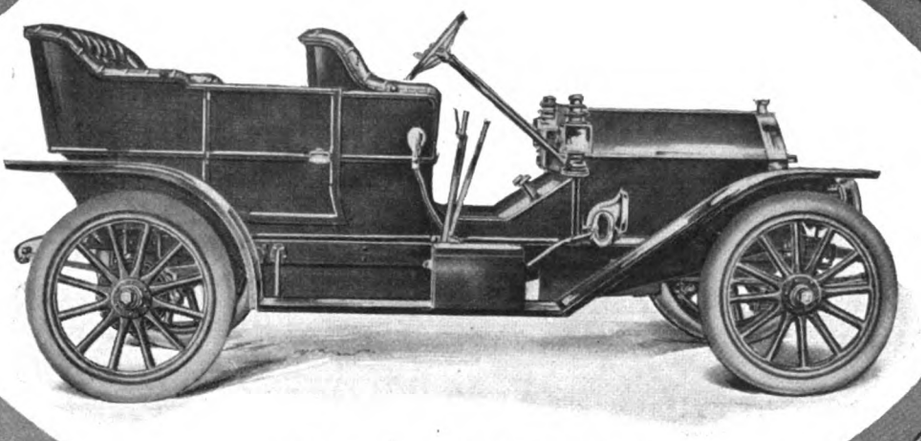
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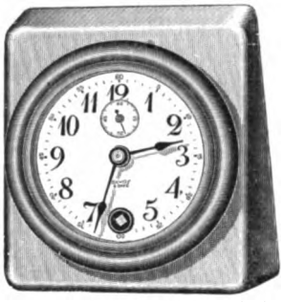
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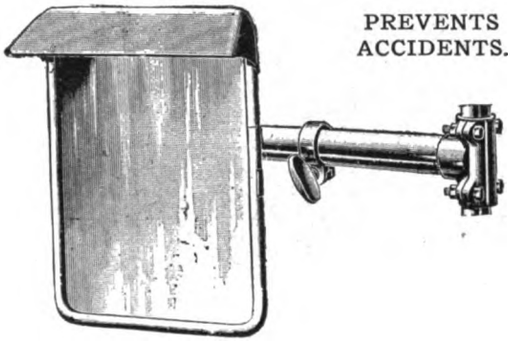
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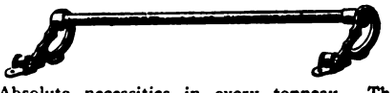
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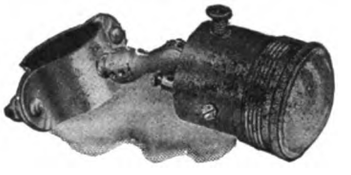


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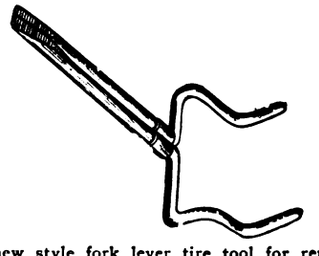
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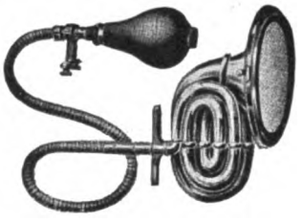
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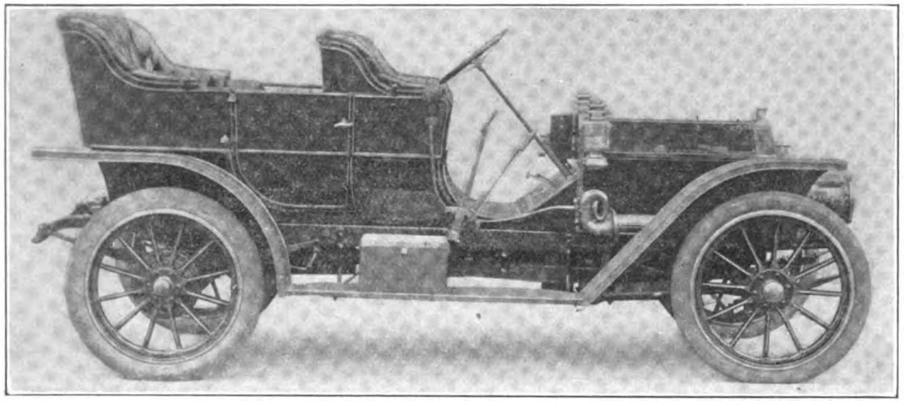
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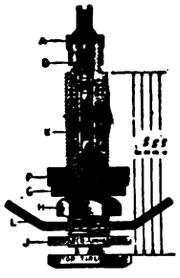
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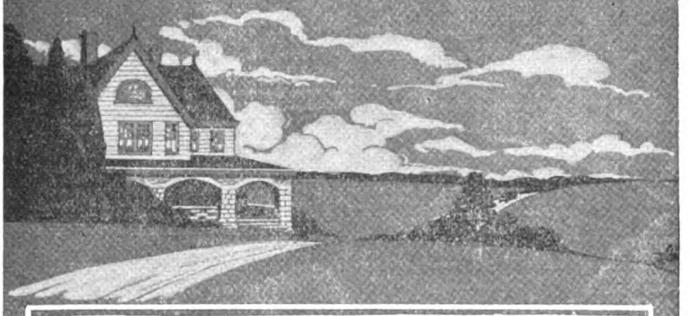
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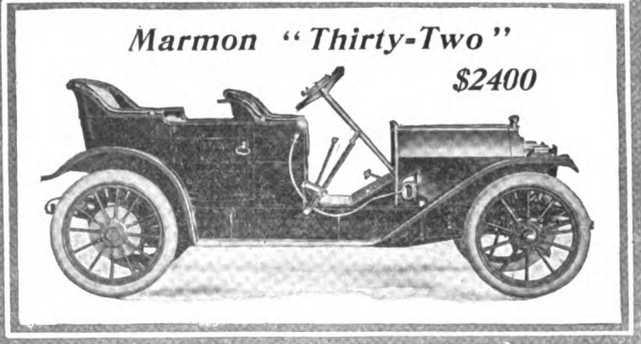
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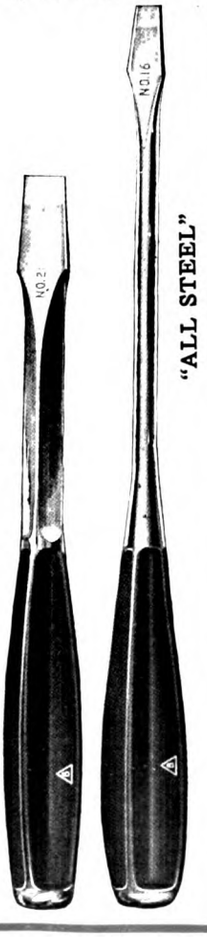
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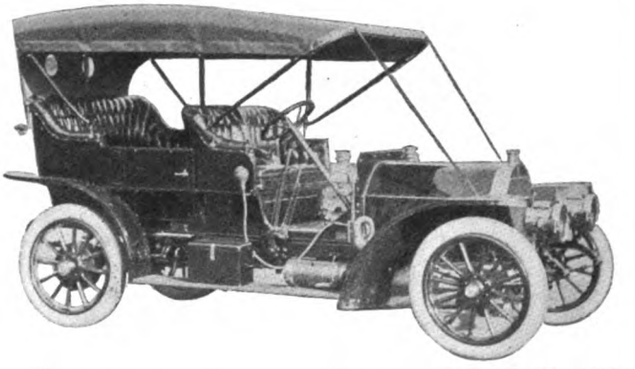
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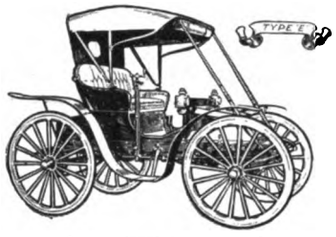
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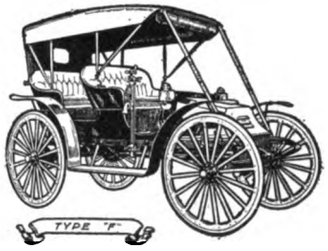
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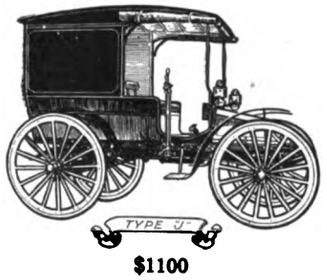
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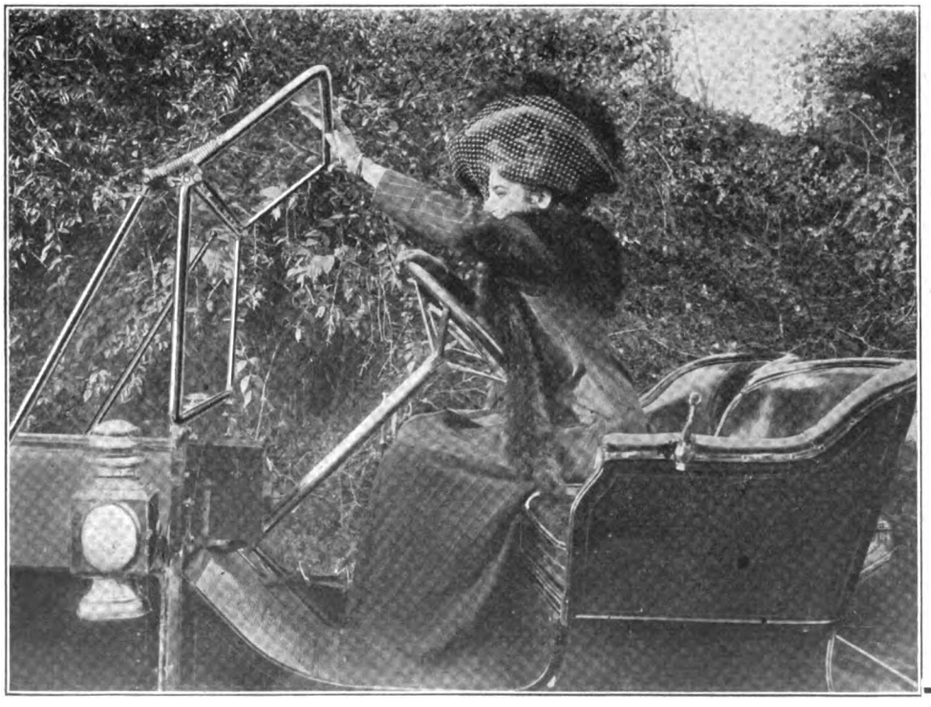
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Reliable Dayton Motor Car Co.

Dept. 14

Chicago, Ill.

The Automatic FOLDING Dust and Wind Shield



PATENTED IN THE UNITED STATES AND PRINCIPAL EUROPEAN CITIES.

The only FOLDING DUST AND WIND SHIELD that can be instantly raised or lowered with one hand while the car is running at full speed. NO BOLTS OR NUTS TO ADJUST.

ALL BRASS AND GLASS
BEAUTIFUL IN OUTLINE
AND ANTI-RATTLING.

MANUFACTURED BY

C. A. MEZGER, Inc.

1629 Broadway New York

FACTORY SALES MANAGERS:

National Sales Corporation,

296 Broadway New York

Grand Central Palace Show, Space 142
Madison Square Garden Show, Space 323.

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Mayo Radiators are as Unobtrusive as Good Form

¶ They don't "spout" or "slop over," and are thoroughly effective.

¶ Mayo Radiators are their own reason for their general use on really high-grade cars.

¶ Mayo Radiators are built first and built as well as the finest kind of artisans working with the best materials and under the most favorable conditions can build, and their cost is based on their worth.

¶ Mayo Radiators assure that whatever troubles a car may have, they are not due to the radiator.

¶ Mayo Radiators are not within the price limit of cheap cars. Equally true it is that they are within the quality limit of all good cars selling at any price.

¶ A Mayo Radiator axiom:

If the rest of the car is as good as the Mayo Radiator, it's all right.

¶ Mayo Radiators are made in a Quality Shop at New Haven, Connecticut.

MAYO RADIATOR COMPANY

Ninth National

Automobile Show

Madison Square Garden

January 16 to 23, 1909, New York City

Under the Auspices of the

Association of Licensed Automobile Manufacturers

Exhibiting standard Gasoline Cars licensed under the Selden patent.

LICENSED GASOLINE CARS

Apperson	Columbia	Hewitt	Packard	Royal Tourist	Stevens Duryea
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Buick	E-M-F-	Locomobile	Pierce Arrow	Selden	Thomas
Cadillac	Franklin	Lozier	Pope Hartford	Simplex	Walter
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Corbin					Winton

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Anderson	Bailey	Champion	General Vehicle Co.	Studebaker	Woods
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STEAM

White

Complete exhibit by the Motor & Accessory Manufacturers. The only complete Motorcycle exhibit in New York, by the Motorcycle Manufacturers' Association, Commercial Vehicles, Town Cars and Taxicabs.

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A Year of Triumph for BOSCH Magneto

On the Track

Bosch won the French Grand Prix. The Prince Henry Contest. The Grand Prize at Savannah. The Light Car Event at Savannah. Both Brighton Twenty-four-Hour Races. Nazzaro established the world's record (120 miles an hour) with a Bosch. Many minor track events were also won with this system.

On the Road

The Thomas car won the New York-Paris Race with a Bosch. The winning cars in the A. A. A. Touring Contest were equipped with a Bosch. T. K. Hastings completed the Six Day Reliability Trial (Auto Cycle Union of England) with a Bosch.

In the Air

Zeppelin's great Dirigible Airship used two Daimler Motor Engines equipped with a Bosch.

On the Water

Dixie II, winner of the International Trophy in the greatest Motor Boat Race of the year was equipped with a Bosch.

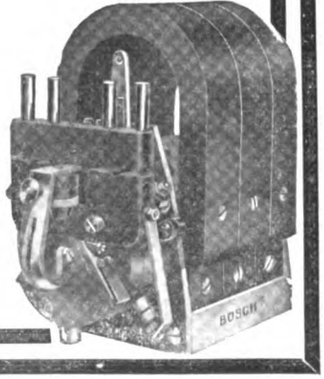
On the Market

The Bosch is recognized as the best Ignition System obtainable and it is found on the majority of cars all over the world. Order a Bosch NOW for your car!

Bosch Magneto Co.

223-225 West 46th Street
NEW YORK

CHICAGO BRANCH,
1253 Michigan Avenue.



"Firestone" NON-SKID TIRE

The Tread is composed entirely of rubber; it is formed by the raised oblique lettering, "FIRESTONE NON-SKID." Presents a greater variety and number of angles and edges and points of road contact, to prevent slipping, than any other Non-Skid in existence.



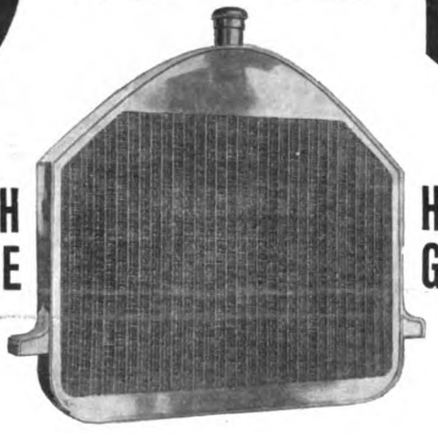
The wear-resisting quality of this Tread is a revelation to motorists accustomed to the extravagant expense and short-lived efficiency of ordinary non-slip devices. *Ask to see it.*

FIRESTONE TIRE & RUBBER CO., AKRON OHIO

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BUSH RADIATORS



HIGH GRADE HIGH GRADE

MADE ON SCIENTIFIC PRINCIPLES

HIGHEST EFFICIENCY

KNOX AUTOMOBILE COMPANY,
53 Wilbraham Road.

Springfield, Mass, Dec. 23, 1908.

BUSH MFG. COMPANY,
Hartford, Conn.

Gentlemen: In regard to the action of your radiators on our Vanderbilt Cup racers, would say we used your standard 3" section radiator on both our model O and model M cars, both radiators having exactly the same frontal area.

Both cars were run over the road to the race from Springfield and the drivers state that no water was added to either radiator during the practice or in the race, and that the cars were run back to Springfield with the same water in them as when they started. This seems to us to be a remarkable showing, particularly as the large car ran almost the entire race on a retarded timer setting, the magneto having gone wrong in the first lap. Yours very truly,

KNOX AUTOMOBILE COMPANY,
H. G. Farr, Supt.

RADIATORS, HOODS, FENDERS,
SHEET METAL WORK

Bush Manufacturing Co.
HARTFORD, CONN.

WEED
CHAIN TIRE GRIPS

are as necessary as gasolene. They absolutely prevent skidding, slipping, or lost traction

WHEN IT SNOWS!

put Weed Grips on all four wheels! Your car steers easily and without effort by so doing.

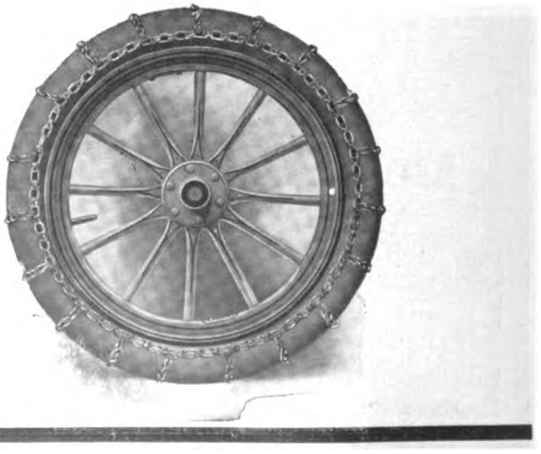
WHEN IT RAINS!

or the pavement is wet or "greasy" put on Weeds — your car cannot skid, slip or slide.

IN THE MUD!

or on the steepest hills there will be no lost traction if you use Weeds. They enable the heaviest automobile to climb hills easily and without effort. Is your car equipped?

WEED CHAIN TIRE GRIP COMPANY
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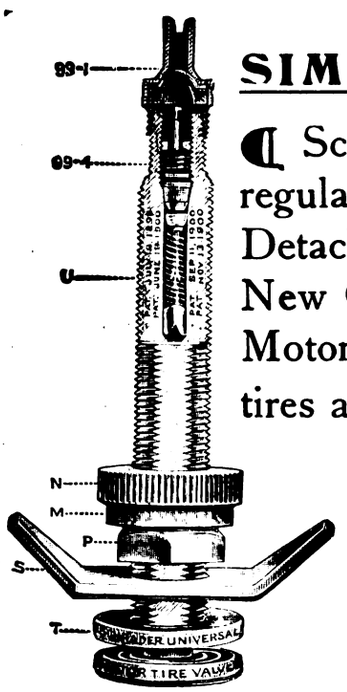
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Don't place your frame Contract until after you have written to

C. C. Lozier, manager
The Columbia Steel Company
Elyria, Ohio.

Schrader Universal Valve

Trade Mark Registered April 30, 1895



SIMPLE AND ABSOLUTELY AIR TIGHT

¶ Schrader Motor Tire Valves, as shown in cut, are the regular equipment for G & J Motor Tires, Hartford Dunlop Detachable Motor Tires, Fisk Detachable Motor Tires, and New Goodyear Detachable Motor Tires. ¶ Our No. 777 Motor Tire Valve is the standard for 3-inch and smaller tires and our No. 725 Motor Tire Valve is the standard for tires larger than 3 inches.

Supplied to the Trade by All Tire Manufacturers

MANUFACTURED BY

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Stevens-Duryea

Models XXX and Y

are typical Stevens-Duryea productions.

The latest links in the chain of STEVENS-DURYEA SUCCESSES

The XXX—a 24 Horse Power Four Cylinder Runabout—price $2,850.

The Y—a 6-40 Horse Power Six Cylinder Touring Car—price $4,000.

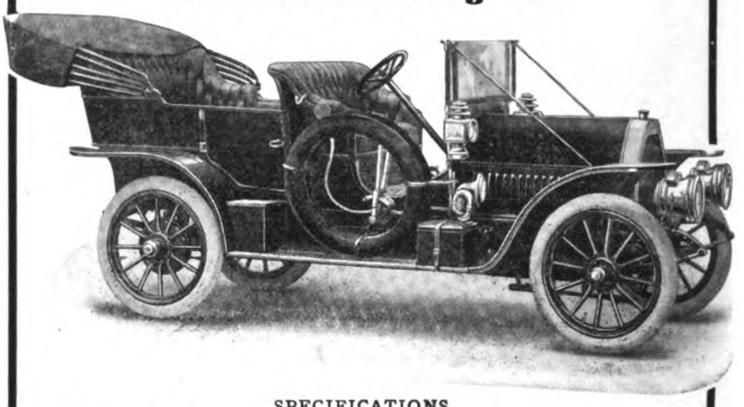
The Four Cylinder Model X, of the past season, and Six Cylinder Model U (Light Six) of the past two seasons, will also be **1909 STEVENS-DURYEA CARS.**

On Exhibiton at Licensed Association Auto. Shows

STEVENS-DURYEA CO.
CHICOPEE FALLS, MASS.
Member Association Licensed Automobile Manufacturers.

THE "JEWEL 40"

The Non-Skidding Car



SPECIFICATIONS

ENGINE—Rutenbur.
BORE AND STROKE—4¾x5″
IGNITION—Double—Bosch Magneto, Connecticut Coil and Exide Storage Battery.
LUBRICATION—Self contained system with oil level pump in crank case.
TRANSMISSION—Selective type, 3 speeds forward and reverse.
BEARINGS—Timken Roller.
FRONT AXLE—One piece drop forging.
REAR AXLE—Full floating type.
WHEEL BASE—120″.
WHEELS—36″.
TIRES—Goodyear, Diamond, Firestone or Hartford, 36x4″ front, 36x4½″ rear.
BODY—Seven passenger.
WEIGHT—3,000 lbs.
PRICE—$3,000.00 complete with top, Hartford Shock Absorbers, Prest-O-Lite gas tank, 9″ Rushmore Search lights, side lamps and tail lamp, double tire irons and trunk rack.

Write for catalog.

THE FOREST CITY MOTOR CAR CO., Massillon, Ohio
New York Agency, JEWELL MOTOR CAR COMPANY, 1662 Broadway.

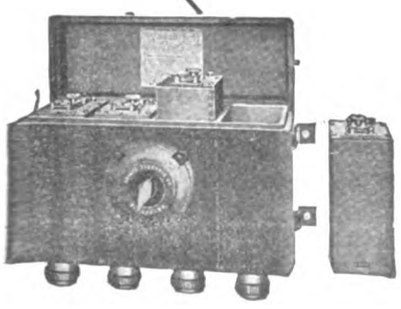
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Heinze ignition apparatus on your 1909 car and get

THE BEST MADE.



Write us if your dealer does not carry them.



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Makers of
COILS, TIMERS, MAGNETOS, SPARK PLUGS.

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to call at our exhibit at either of the New York Automobile Shows.

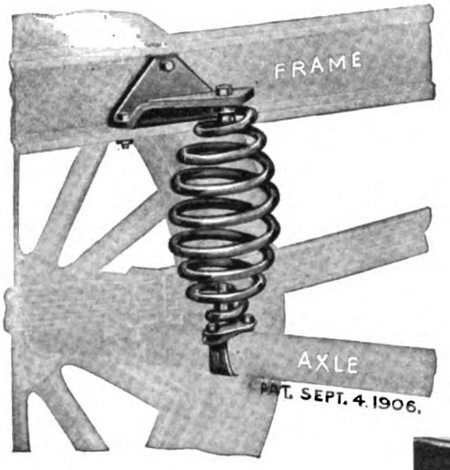
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ELMORE MFG. CO.
"The 'Sager device' presents advantages not found in other so-called 'shock absorbers.'"
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"They add greatly to comfort and reliability."
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"Our customers are more than satisfied with them."
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"Have given us very excellent satisfaction."
THOMAS B. JEFFERY CO. (Rambler).
"In the last three years we have used quantities of your springs, which have given excellent satisfaction."
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"Used your springs with splendid success."
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THE FOREST CITY MOTOR CAR CO. (Jewel).
"We found your springs to be satisfactory."
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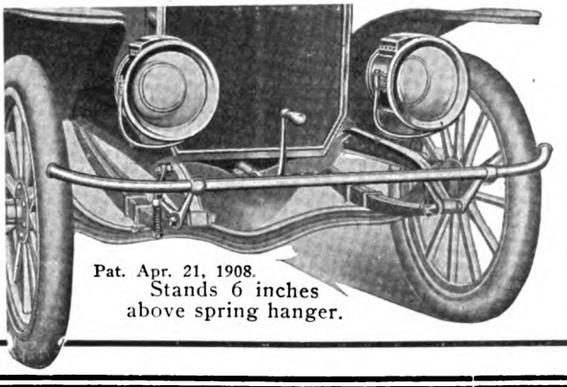
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OVER 35,000 IN USE.

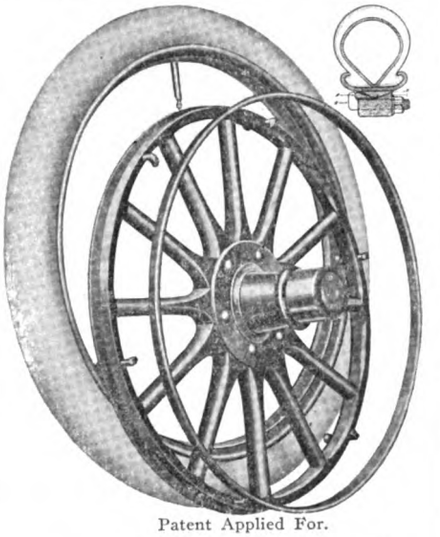
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You will, too, if you try them.

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Pat. Apr. 21, 1908.
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Patent Applied For.

The Demountable Rim
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See us at the Shows or write for particulars.

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Management of American Motor Car Manufacturers' Association

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Why pay for useless weight? Write for catalogue of the strong, high-power, light-weight Franklins.
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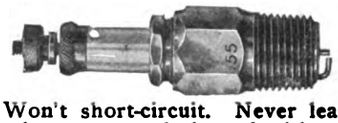
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The newest and best wrench made; all steel—great strength; instantly adjusted; easily and quickly operated; positive grip; immense time, trouble, and temper saver; best "all round tool" ever offered for sale.
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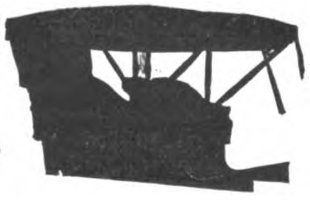
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Gasoline and Electric—for Pleasure and Business
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Tire expense cut in two.
Cannot Blow Out, Rim Cut or Puncture.
As Flexible as Rubber Anti-Skid.
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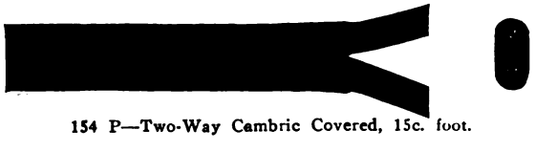
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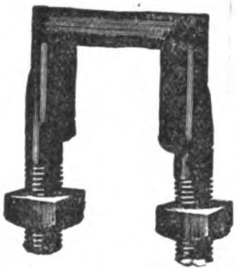
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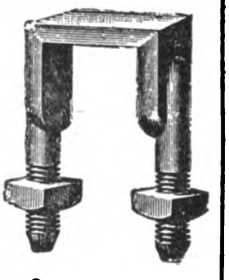
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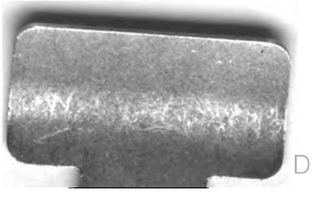
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